

# Code of Practice 614

Issue 48      May 2025

## Authorisation



## Amendment Summary

ISSUE NO. DATE	DESCRIPTION
<b>Issue 40</b> <b>January 2024</b>	<p>Restructure and reformatting of CP614 to new template format, including some code amendments and additional authorisation codes for tree cutting work by contractors. Details are:-</p> <p>Codes amended with updated course details:-</p> <p>Code 101 course code changed from CT051 to CT053</p> <p>Code 103 code no longer available – existing holders to retain entitlement.</p> <p>Code 147 change course code from ED51 to OH017. change course code from H588 to OH034 - Working at Height (wood pole rescue)</p> <p>New Codes:-</p> <p>Codes 502 – 509 New Contractor codes for Tree Cutting</p> <p>Code 515 Routine maintenance, repair and resetting of Sump Alarms</p> <p>Replacement of Meter Operator Code of Practice Agreement (COMCOPA) with Meter Operator Code of Practice (CoMCoP).</p> <p>Prepared by: Paul Ward Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson.</p>
<b>Issue 41</b> <b>February 2024</b>	<p>Minor amendment to code 314 and new code 525 introduced. Details are:-</p> <p>Code 314 Changed to include new technologies.</p> <p>Code 525 New code to cover the use of the sniffing equipment for location of underground LV faults.</p> <p>Prepared by: Paul Ward Approved by: Policy Approval Panel and signed on its behalf by Paul Turner, PAP Chairperson.</p>

**Issue 42**

Several minor wording amendments along with changes to the following codes:-

**April 2024**

Code 183 – Requirement to hold code 195 in addition if issue of safety documents is required.

Code 364 – Remove the requirement to hold LV authorisation. Must hold code 347 for a minimum of 6 months.

Code 149 – Allows for Telecom staff already holding code 106 and completing EO1170 to gain the code without interview.

Code 217 – Qualifications and on job training amended.

Code 218 - Qualifications and on job training amended.

Code 344 – Formal and on job training modified.

Code 347 – On job training clarified.

Code 503, 504, 505 – Clarified that these codes are for all work but in order to issue safety documents code 195 is also required. On-job training updated, requirement to be assessed on site via audit at 1 week and 1 month from passing authorisation interview. Update to Interview add option of Vegetation Management.

Code 506, 507, 508, 509 – On-job training updated, requirement to be assessed on site via audit at 1 week and 1 month from passing authorisation interview.

Code 525 - New code for Installation & commissioning of Linesight overhead line equipment only (Dead work)

Prepared by: Paul Ward

Approved by: Policy Approval Panel

and signed on its behalf by Paul Killilea, Asset & Investment Director

**Issue 43**

Code 117 – Requirement to hold code 122 as experience re-introduced as removed in error previously

**May 2024**

Changes to 3 codes to allow for an alternative route to authorisation and 5 new codes added for Modularisation

Code 340 - Authorised Person to operate ground mounted switchgear at 11/6.6kV

Code 397 - Senior Authorised Person up to and including 11kV, limited to overhead lines, excluding operating ground mounted switchgear

Code 301 - Limited Senior Authorised Person - Limited to plant maintenance up to 11kV

Code 440 - Authorised Person to operate pole mounted switchgear at 11/6.6kV (pre-arranged work only)

Code 441 - Authorised Person to operate ground mounted switchgear at 11/6.6kV (pre-arranged work only)  
Code 445 - Senior Authorised Person at 6.6/11kV, limited to overhead lines (pre-arranged work only), excluding operating ground mounted switchgear  
Code 446 - Senior Authorised Person at 6.6/11kV, limited to ground mounted switchgear and underground cables (pre-arranged work only)  
Code 448 - Senior Authorised Person at 11/6.6kV, limited to ground mounted switchgear and underground cables.

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Killilea, Asset & Investment Director

**Issue 44**  
**July 2024**

All LV AP and HV AP codes amended to clarify the minimum Qualification required.  
Codes amended 309, 313, 314, 315, 318, 319, 320, 321, 330, 340, 353, 440, 441.

Contractor tree cutting codes 502 – 509, refresher requirements also amended.

Changes identified in document body by the addition of a line and date.

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Killilea, Asset & Investment Director

**Issue 45**  
**November 2024**

Changes made and new sections added to the preambles with respect to:-

- Operational refresher periods in line with current practice. [Authorisation Renewal](#)
- Onboarding of other DNO staff, both Craft and Engineering. [Onboarding of Staff from other DNOs](#)
- Issue of Substation access keys. [Issue of Substation access and Operational lock keys](#)

Changes to Authorisation codes fall into four categories:-

Withdrawn Codes

255, 312, 313, 322, 325, 327, 328, 329, 336, 341, 346, 349, 371, 374, 388, 389, 391, 392, 393

Withdrawn Codes but replaced by others

135, 136, 181, 183, 184, 185, 189, 196, 197 have all been replaced by 600 series

Arborist codes – existing holders will be migrated across

381 has been replaced by code 285 for Sellafeld Operatives

Amended Codes

111 – Requirement for System Operations interview removed

117 – Requirement for 5 all insulated single pole 3-phase added for clarity to on job training  
120 – Trade test included in assessment  
174 – changes to align to new 600 series Arborist codes  
192 – Emergency patrolling of wood pole lines amended to allow appropriately authorised Utility Arborists to hold code  
317 – Consequential changes due to Utility Arborist Code changes  
344 – Amended to allow disable/enable protection supply

New Codes

285 – New code replacing the previous Sellafield specific code381  
601 -610 New codes replacing the previous Arborist codes.

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Turner, PAP Chairperson.

**Issue 46**

[Section 8](#) amended to clarify the process regarding CAG failures and resitting.

**January 2025**

[Section 9](#) amended title of CP940

Code 278 – amended for clarity regarding on-job training and assessment requirements

Code 194 – notes amended to clarify rules regarding receipt of PTWs related to oversail work.

Code 409 – no longer available  
Code 410 – amended to include elements of 409  
Code 419 – no longer available  
Code 420 – amended to include code 410 as a prerequisite  
Code 415 – amended formal training course to EO1139 from EO1135

Codes 363, 373, 366, 376 – no longer available, existing holders to retain until migrated onto equivalent codes (remove references re to “upto a voltage”)

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Turner, PAP Chairperson.

**Issue 47**

Code 107 – Stand by a generator for safety and to prevent unauthorised access whilst the generator is connected to the LV network. Amended for clarity

**April 2025**

Code 525 – Linesight code amended to allow for construction from other than a MEWP

Code 300 – Limited Senior Authorised Person – Limited to issuing/cancelling LOAs for plant maintenance up to 11kV. Notes added for clarity

Code 333 - No Longer Available - Authorised to carry out live line pole erection, holder to be migrated to Code 335

Code 335 - Authorised Person to act as Dedicated Observer for the purpose of live line pole erection. Amended to cover the role of Dedicated Observer.

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Turner, PAP Chairperson.

**Issue 48**  
**May 2025**

Code 317 - Authorised Person to remove/replace LV fuses and post Caution Notice, test dead and apply LV portable earths and post Caution Notice on the LV overhead system only (pre-arranged work only) for the purposes of planned tree clearance work.

Amended to remove the requirement for formal electrical qualifications as directed by the Asset Management & Investment Director.

Prepared by: Paul Ward  
Approved by: Policy Approval Panel  
and signed on its behalf by Paul Turner, PAP Chairperson.

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## 1 Introduction

The Electricity at Work Regulations 1989 requires persons who work on, or adjacent to, the Electricity System to have sufficient technical knowledge or experience to avoid **danger**. Any person who possesses this technical knowledge and/or experience is, by Safety Rule definition, deemed to be a **Competent Person**. The **Authorised Person** and **Senior Authorised Person** are **Competent Persons** with specified duties.

The Electricity at Work Regulations 1989 also specifies the need for accompaniment if the second person can substantially contribute towards the implementation of safe working practice.

Section 8 of Procedure G2 in CP606 defines the conditions under which a **Competent Person** can work unaccompanied and if accompaniment is necessary the standard required of the second person. Section 2 of Procedure G2 covers the conditions under which a **Non-Competent Person** can work in substations and switching stations.

This establishes 2 levels in relation to competence:

- A **Competent Person** (which includes the **Authorised Person** and the **Senior Authorised Person**) who can normally work unsupervised.
- A **Non-Competent Person** who has insufficient training or experience to avoid **danger** and consequently always requires **Personal Supervision**.

## 2 Scope

This code of practice describes the authorisation procedure for Electricity North West employees, contractors, third party contractors and emergency imported staff who are required to work on or adjacent to the Electricity North West distribution system and networks under COMA operated by Electricity North West.

### 3 Definitions

ABC	Aerial Bundled Conductor
AP	Authorised Person
AVC	Automatic Voltage Control
CA	Competency Accreditation
CDM	Construction, Design & Maintenance
CLASS	Customer Load Active System Services
CME	Circuit Main Earth
COMA	Control, Operation and Maintenance Agreement
CPD	Continuing Professional Development
CT	Current Transformer
CV	Curriculum Vitae
DOEF	Drop Out Expulsion Fuse
DSO	Distribution System Operator
EFI	Earth Fault Indicator
ENA	Energy Networks Association
ENWL	Electricity North West Limited
ESQCR	Electricity Supply, Quality and Continuity Regulations
GIS	Geographical Information System
HAM	High Accuracy Metering
HNC	Higher National Certificate
HV	High Voltage
IAD	Insulated Aerial Device
ICP	Independent Connections Provider
IDNO	Independent Distribution Network Operator
IET	Institution of Engineering and Technology
ITP	Individual Training Plan

LOA	Limitation of Access
LRQA	Lloyds Register Quality Assurance
LSAP	Limited Senior Authorised Person
LV	Low Voltage
MEWP	Mobile Elevated Work Platform
CoMCoP	Consolidated Metering Code of Practice
NERS	National Electricity Registration Scheme
NPTC	National Proficiency Tests Council
NRSWA	New Roads and Street Works Act
OI	Operational Instruction
OHL	Overhead Line
PILC	Paper Insulated Lead Covered
PTW	Permit to Work
RTU	Remote Terminal Unit
SAP	Senior Authorised Person
SATS	System Amendment Tracking System
SFT	Sanction for Test
SMS	Safety Management System
TOAD	The Operational Authorisation Database
TROC	Transfer of Control and Operations
UA	Utility Arborist
U/G	Underground
UPS	Under Personal Supervision
VT	Voltage Transformer

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## 4 Certification

The appointment of a **Competent Person** (including an **Authorised Person** and a **Senior Authorised Person**) **shall** be in writing and the authorisation certificate **shall** state the duties for which the holder is deemed to be competent.

The certificate **shall** also state:

- Where substation access is required, the type of substation and voltage level to which access is limited.
- The voltage level where, as in the case of operational switching and/or competency eg jointing, this imposes a limit.

Authorisations will normally be issued to cover the entire Electricity North West network. However, in special circumstances the authorisation may be limited to specific circuits or locations.

Authorisations will normally be valid for a period of five years and re-issue will be subject to successful completion of Competency Accreditation (CA) and/or electrical safety refresher training.

Authorisation will be issued via The Operational Authorisation Database (TOAD) and signed by the System Operations Manager or one of their designated deputies.

Under the Consolidated Metering Code of Practice (CoMCoP) Third Party Meter Operators are responsible for assessing that meter installers are competent and issue their own certificates. Third party meter operator's employees are not issued with an Electricity North West authorisation.

## 5 Requirements for Competency/Authorisation

Any person who works unsupervised on or adjacent to the Company's Electrical **System** must be a **Competent Person** appointed in writing by the Company. This applies to Electricity North West staff, contractor's staff working for Electricity North West, third party contractors (excluding CoMCoP staff) and customer appointed staff. **Competent Person** in this context embraces both **Authorised Person** and **Senior Authorised Person**.

Technical knowledge and understanding, which includes adequate knowledge of electricity is necessary for persons to be Competent. To demonstrate adequate knowledge of electricity, for certain authorisations, it is necessary for individuals to attain an appropriate nationally recognised academic qualification. For example, Craftsmen (Joiners/ Linesperson/ Fitters etc) are required to achieve City & Guilds level 2 (or equivalent). SAP Operational Engineers are required to achieve a minimum of HNC (or equivalent).

The training and experience necessary for Competency reflects the type of work and the level of exposure to **live** equipment. For example, HV authorised staff operating in a 132kV compound or a joiner carrying out **live** LV jointing will be exposed to more danger than, say, a joiner changing a substation door. Consequently, the training and experience requirement for a joiner would be at a lower level than either an engineer or joiner.

Training must normally be carried out in the sequence shown ie formal training first followed by on-job training. Any exception to this must be with the prior agreement of System Operations.

Following formal training the trainee's line manager **shall**, as part of the post course review, appoint a mentor and training supervisors. For operational training involving switching and/or safety document issue the trainee's line manager must agree with System Operations the staff that are to be appointed as mentor and training supervisors.

On-job operational training should only be carried out under the **Personal Supervision** of a person who has held the level of authorisation, for which the training is being given, for at least six months. In addition the Personal Supervisor should be a regular operator at this level of authorisation.

The trainee's authorisation **shall** be endorsed with a 'P' (under **Personal Supervision**).

Where appropriate the training **shall** be carried out in accordance with the on-job training modules.

The minimum on-job training periods, if stated, are of a recommended duration and may vary depending on the frequency of training and the ability of the person undergoing training.

Codes under **Personal Supervision** **shall** not be held for more than 2 years. Failure to obtain the authorisation in full in that time will result in the code being withdrawn. If it is determined that the code is still required, it will be necessary for the holder to undertake the formal training again and complete the requisite on-job modules. Any deviation from this rule will be at the discretion of the System Operations Manager.

The appointment of a **Competent Person** is dependent on the recipient meeting the relevant training/experience requirements and being confident to carry out the duties unsupervised. Relevant experience gained by contractors' staff with other companies can be taken into consideration when assessing training requirements.

Continuation of an employee's Competency/Authorisation will be subject to regular formal assessment and/or refresher training. If an employee holds an operational authorisation and a craft authorisation they must undergo the appropriate Competency Accreditation and/or electrical refresher training in addition to any operational refresher training. Training (including refresher training) may be done outside of Electricity North West. In these cases the training course must be **approved** by the Academy Technical Training Manager and put on The Operational Authorisation Database accordingly.

Safety Rule 1.11 - Treatment for Electric Shock - requires all persons who may be concerned with the operation of, or work on, the Electrical System be trained in the treatment of electric shock. This requirement is met by attendance on a recognised Emergency First Aid course. A refresher course **shall** be attended every three years. This training can be undertaken outside of Electricity North West providing proof of attendance is provided.

## 6 Authorisation Procedure

All applications for operational authorisation are to be submitted to the Training Academy for consideration, utilising request forms and advice available from the Training Academy Admin Team. Contractor authorisations will only be accepted if submitted by an Electricity North West manager (Sponsoring Manager) who requires the work from the contractor (see Appendix E8).

All applications for authorisation for Electricity North West employees or contractors must be signed by a nominated Manager **approved** by the Training Academy. Application forms can be obtained from the Training Academy Admin Team ( [TheAcademy@enwl.co.uk](mailto:TheAcademy@enwl.co.uk) ).

## 7 Operational Switching Auditing

Following initial operational authorisation and subsequent progression to a higher level of authorisation audits **shall** be held in the first six months.

System Operations **shall** carry out operational audits each calendar year or as otherwise deemed necessary. Results of the audits may be sent to the appropriate line manager who will be responsible for any actions resulting from the audit.

Electricity North West contractors **shall** have an operational audit each calendar year or as otherwise deemed necessary. Results of the audits may be sent to the line manager of the contractor's Electricity North West sponsor.

System Operations **shall** also carry out random audits of switching programmes.

Operational audits may be carried out without prior notification.

Should the auditing procedure identify a person is below the necessary operating standard then one or more of the following options **shall** be considered:-

- Discussion on site between the auditor and the operator.
- Report to line manager.
- Interview with the System Operations Manager or one of their designated deputies.
- Formal refresher training.
- On-job refresher training.
- Withdrawal and re-issue of Authorisation at a reduced level, with or without progression to the previous level of Authorisation.
- Permanent withdrawal of Authorisation.



## 8 Authorisation Renewal

Operational Authorisations are valid subject to attending mandatory refresher training and passing relevant audits. For renewal of authorisation, individuals **shall** complete the appropriate Competency Accreditation (CA) and/or attend the appropriate refresher training.

It is the responsibility of line managers to ensure that individuals carry out the CA and/or attend the refresher training prior to requesting authorisation renewal. CA/refresher training requirements should be included in the employees Individual Training Plan (ITP).

A H200CA refresher course **shall** be completed every 5 years. The H200CA and all Operational Refresher training **shall** be completed within the 12 month financial year in which it is due.

If a H200CA is failed, the Training Academy **shall** notify the individual of the key areas of weakness and the Individual may sit the CAG a second time. Failure of the second attempt will result in Withdrawal of Authorisation. The Training Academy **shall** again notify the individual of the areas of failure and the CAG may be sat a 3<sup>rd</sup> time. If passed on this occasion the Authorisation **shall** be reinstated, however, if failed a third time full retraining **shall** be required prior to applying for the code under Personal Supervision.

It is the responsibility of line managers to ensure that all individuals with an Operational Authorisation are trained in and conversant with the treatment of electric shock (see section 5) and where appropriate pole top/tower rescue. Evidence of current training is required with the renewal request. Authorisation renewal, including temporary extension, will not be issued without this evidence.

It is the responsibility of the individual to ensure that they are up to date with treatment of electric shock and where appropriate pole top / tower rescue throughout the period of authorisation. If these refreshers have lapsed then any relevant authorisation is not valid. The 12 month financial year period does not apply to these refreshers.

For clarity, if the individual's First Aid refresher date is not met, their Authorisation is invalid from that date. Similarly, if pole top / tower rescue refresher dates are not met, the individual cannot work as part of a climbing team from that date.

## 9 Operational Incidents

An operational incident is defined as a breach of the Distribution Safety Rules or the company's operational policies or procedures (often associated with switching or the application of safety documentation). This does not include a breach of craft procedure(s) as embodied in craft Codes of Practice.

They are classified as:

- Deliberate.
- Accidental - correct intention but wrong execution ie human error.
- Accidental - wrong intention based on misunderstanding, ignorance etc

Any of the above has potential for injury.

Operational incidents will normally be investigated as an Electrical Operation Investigation in accordance with CP940 – Handling, Recording, Investigation and Analysis of Electrical Operational Incidents.

In the event of an operational incident, the System Operations Manager should be informed as a matter of urgency in accordance with CP606 Section R. In addition, authorisation should be withdrawn from those involved, without prejudice, while an investigation into the incident is carried out. This could be those directly involved and/or those who are identified, as the facts emerge, during the subsequent investigation. The withdrawn authorisation should be returned to the System Operations Manager. The suspension of authorisation is intended to be a routine procedure in the best interests of the person(s) concerned on the grounds of welfare to provide time to ensure that the person(s) involved is/are not suffering from shock or trauma.

Restoration of the authorisation **shall** be at the discretion of the **Designated Engineer**, or their designated deputy. Dependent on the investigation report the following options should be considered before restoration of Authorisation:

- No further action following interview with the System Operations Manager, or one of their designated deputies.
- Formal refresher training.
- On-job refresher training.
- Restoration at a reduced level of authorisation, with or without progression to the previous level of authorisation.
- Permanent withdrawal of authorisation.

Where further actions are proposed a note should be added to the comments field on the individual's authorisation profile which may make reference to a document in the individual's personal file.

## 10 Permanent Withdrawal of Authorisation

Where the actions of a Competent/Authorised Person compromise the standards set by Electricity North West such that the latter can no longer trust that individual to operate unsupervised, competently, safely and to comply with Policies and Procedures, it may be necessary to permanently withdraw authorisation.

Reasons for permanent withdrawal of authorisation:

- A Competent/Authorised Person who resigns or retires **shall** have all authorisations suspended upon leaving the company.
- Where an authorised employee resigns or retires then they **shall** not normally be reauthorized for a minimum period of 2 years from the date of resignation / retirement unless they are re-employed as a direct employee of Electricity North West.

**NOTE:** Individuals may apply for re-authorisation by following the Process detailed in Section 11.

- Dismissal for Gross Misconduct for, but not limited to, the following circumstances:
  - a) a breach of Health and Safety policy
  - b) failure to comply with Electricity North West Distribution Safety Rules
  - c) a breakdown in trust

**NOTE:** Authorisation withdrawn for reasons of Gross Misconduct **shall** not be reinstated for a period of a minimum of 2 years. After the minimum period of 2 years a route back may be considered as outlined in section 11 – Route Back to Re-Authorisation.

Any other such circumstance in the reasonable opinion of the Authorisation Panel.

## 11 Route Back to Re-Authorisation

Authorisation withdrawn for reasons of Gross Misconduct **shall** not be reinstated for a minimum period of 2 years after which a route back can be considered.

Subject to providing suitable evidence of consistent compliance and competence to relevant policy, for example within another DNO, an individual **shall** be considered for re-authorisation.

Where the breach of trust is based on a pattern of repeated actions authorisation may not be reinstated.

To ensure fairness and consistency the following procedure **shall** be followed when an employee, ex-employee, framework contractor or third-party contractor requests a route back to re-authorisation.

- The individual must complete a Route back to re-authorisation application form (Appendix F)
- The application form and evidence will be reviewed by the Authorisation Panel who will decide the route back to re-authorisation
- The Authorisation Panel may decline the application and **shall** provide a reason and indication (if applicable) of what the individual needs to do if they apply in the future.
- If the Panel approve the application, they **shall** provide a pathway back to re-authorisation which may involve a combination of the following;
  - a) Re-training and assessment
  - b) On-job training under **personal supervision**
  - c) Practical assessment
  - d) Competency accreditation assessment
  - e) Competency interview

There will be a cost associated with the route back to re-authorisation which will be provided on approval of the application.

## 12 Electricity North West Contractors

The employment of Electricity North West contractors **shall** be in accordance with EPD103.

It is the responsibility of the line manager who employs the contractor to ensure that EPD103, the authorisation procedure in Section 6 and the procedure detailed below is followed.

The manager will be responsible for nominating a member of their staff to sponsor the contractor. The sponsor will be responsible for the liaison with System Operations to ensure that the contractors' employees meet the requirements for authorisation. All requests for contractor authorisations must be made by the Electricity North West sponsor.

If the main contractor decides to sub-contract some of their work, the main contractor is responsible for ensuring that their sub-contractors satisfy all the criteria to obtain authorisation.

Prior to any contractor's employee being authorised to work on the system the contractor must be accredited by Lloyds Register Quality Assurance (LRQA) with their National Electricity Registration Scheme. (NERS). If the contractor is not LRQA accredited they must be notified to obtain LRQA accreditation by the line manager employing the contractor.

At present the requirement for NERS accreditation covers the following activities:


- Design
- Project Management
- Cable laying (LV, 11kV, 33kV, 132kV)
- Cable Jointing (**dead** LV, **live** LV, 11kV, 33kV, 132kV)
- Overhead lines wooden pole and/or steel tower (up to 132kV)
- Substation installation (up to and including 11kV)
- Substation installation (132/33kV, 66/11kV, 33/11kV)
- All associated civil engineering works including excavation, cable laying and backfilling

**NOTE:** each voltage rating detailed in brackets represents a separate registration category

In completing the Initial Authorisation Request the Contractor is required to certify that the employee has the technical competence for the work to be undertaken

Unless specifically stated otherwise, contractors' employees who are required to work on or adjacent to the Electricity North West **system** will be subject to the same basic requirements as Electricity North West employees, ie they must have the appropriate qualification/experience (see 16) prior to undertaking any formal training and following the completion of formal training they will be required to complete the appropriate on-job training.

For operational authorisations, eg LV or HV authorisation, provided that the contractor's employee can provide satisfactory evidence, in accordance with Appendix E6, of relevant experience / authorisation in another DNO certain elements of the formal training requirements may be omitted. This will be assessed by the System Operations Manager or one of their deputies.

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For trade competency, eg jointing, overhead lines, provided that the contractor’s employee is authorised to carry out the work for their employer and their employer can show that they have the necessary experience and technical knowledge then he can be authorised as follows:

- Completion of contractor assessment, eg trade testing, and safety training at the Electricity North West training facility, and/or other accredited training establishments and/or
- Interview by the System Operations Manager or nominated deputy.

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### 13 Onboarding of Staff from other DNOs

For operational authorisations, eg LV or HV authorisation, provided that the employee can provide satisfactory evidence, in accordance with Appendix E6, of relevant experience / authorisation in another DNO certain elements of the formal training requirements may be omitted. This will be assessed by the System Operations Manager or one of their deputies.

For trade competency, eg jointing, overhead lines, provided that the employee is authorised to carry out the work in another DNO and they employer can show that they have the necessary experience and technical knowledge then they can be authorised as follows:

- Completion of assessment, eg trade testing, and safety training at the Electricity North West training facility, and/or other accredited training establishments and/or
- Interview by the System Operations Manager or nominated deputy.

## 14 Issue of Substation access and Operational lock keys

Issue of any key is subject to an initial request from the Individual's line manager using the Training Academy Key request form.

The guide matrix for the issue of keys is shown below. Any exceptions to this, for example the issue of operational locking keys to fitters to allow for substation inspections, is at the discretion of and subject to agreement by the System Operations Manager.

Keys **Shall** NOT be issued to Apprentices in the first year of their training. Following that period, an application from the Operations section in which they are working and signed off by the Training Academy Apprentice Manager **Shall** be presented for consideration on an individual basis by the System Operations Manager.

Key	Pre-Requisites
Abloy	Sub Access
YN68 (All Areas)	Sub Access
YN2080 (South Lancs)	Sub Access
JW951 (Manchester)	Sub Access
YN63 (Mid Lancs)	Sub Access
YN3488 (Peak)	Sub Access
UOH (Lakes)	Sub Access
X56 (Switchgear – All Areas)	Fitter, Telemetry staff or LV or HV Authorised person with Sub Access
NAT240 (Mid Lancs West Switchgear)	Fitter, Telemetry staff or LV or HV Authorised person with Sub Access
NAT735 (South Lancs East Switchgear)	Fitter, Telemetry staff or LV or HV Authorised person with Sub Access
KA100 (South Lancs Switchgear)	Fitter, Telemetry staff or LV or HV Authorised person with Sub Access
LZZ945 (Lakes Switchgear)	HV Authorised Person with Sub Access
LBL606 (Lakes Switchgear)	HV Authorised Person with Sub Access
24132 (Peak 132kV Switchgear)	132kV Authorised Person with Sub Access



## 15 Third Party Contractors

Third party contractors are defined in this code of practice as contractors who work on, or have access to, Electricity North West equipment but are not working on behalf of Electricity North West. These include:

- Meter Operator working under CoMCoP
- Street Lighting contractor working for local authority
- Independent Connection Provider (ICP) undertaking:
  - (a) HV Jointing / **live** LV jointing on Greenfield / Brownfield site
  - (b) **Live** LV Jointing on Street Furniture

For ICP Authorisation and Control Options see Section 16

### 15.1 Meter Operators

The Meter Operators Code of Practice (CoMCoP) is an agreement between the electricity distribution business (ie Electricity North West) and electricity meter operators in Great Britain.

The Agreement authorises meter operators to install and connect meters to the electricity network by clarifying that the equipment being provided, installed and maintained meets appropriate technical requirements and that work is carried out to adequate safety standards.

Meter operators are responsible for assessing that meter installers are competent and for issuing their own certificate of competency in accordance with the following categories:

#### 15.1.1 Category 1

Connection of LV whole-current meters with unrestricted access to the site of work and the competence to make the point of work safe.

#### 15.1.2 Category 2

Connection of CT-operated meter remote from the point of supply to a terminal block with access to voltage fuses which are not in the vicinity of **live** conductors.

#### 15.1.3 Category 3

As Category 2, but where voltage fuses are in the vicinity of **live** conductors.

#### 15.1.4 Category 4

Connection of CT-operated meter at the point of supply on or near **live** conductors.

A CoMCoP certificate of competence issued by the meter operator is recognised and accepted by Electricity North West. Installers issued with a CoMCoP certificate of competence do not require an Electricity North West authorisation.

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A CoMCoP certificate of competence does not permit access to Electricity North West substations. Staff requiring access must hold a specific substation access authorisation or be under the Personal Supervision of a suitably authorised person.

15.2 Street Lighting Contractors

For street lighting contractors working for local authorities, provided that the third party contractor’s employee is authorised to carry out the work for their employer and their employer can show that they have the necessary experience and technical knowledge then they can be authorised, for removal and replacement of the cut-out fuse, as follows:

- (a) Prior acceptance in writing of third party training covering ENA Engineering Recommendation G39/1;
- OR
- (b) Satisfactory completion of H190 - Basic Electrical Safety for Highway Authority / Contractors (G39/1 equivalent);
- AND
- Interview by the System Operations Manager or nominated deputy.

## 16 Independent Connection Provider (ICP) Authorisation and Control Options

ICPs may operate on Electricity North West equipment in order to make the final point of connection on behalf of customers or Independent Distribution Network Operators (IDNOs). The following section details the options available to them in order to complete work at the various voltages and the pre-requisites required for each.

The different options detail the Safety Management System (SMS) to be utilised however all work **shall** be carried out in accordance with the Electricity at Work Act, the Health and Safety at Work Regulations, CDM Regulations where appropriate and Electricity Supply Quality and Continuity Regulations (ESQCR).

All ICPs must be an **approved** and accredited company under the National Electricity Registration Scheme (NERS) to undertake contestable electricity distribution work.

The following sections detail the options open to the ICP for compliance with the above requirements.

### 16.1 Use of ENWL safe system of work and use of ENWL authorisation by ICP staff.

Under this option all work **shall** be completed under ENWL Distribution Safety Rules and safe systems of work.

This option is applicable to all voltages on the ENWL system.

The authorisation codes will clearly detail the voltage level and work allowed by the individual on the system.

There are 2 routes to ICP staff holding ENWL authorisation codes:-

#### 16.1.1 ENWL issue of ENWL authorisation to ICP employee

ICP's employees **shall** hold an appropriate ENWL authorisation for the work they are doing issued by ENWL. In gaining this authorisation the following criteria **shall** be satisfied:

- a) Confirmation from the ICP of relevant training/experience. This **shall** take account of any and all previous experience and authorisations issued by other DNOs.
- b) Satisfactory completion of a trade test and Competency Accreditation (CA) assessment for industrial staff.
- c) Satisfactory completion of the appropriate conversion course for AP/SAP where necessary.
- d) Interview by System Operations Manager or nominated deputy.

Application for authorisation **shall** be made to the ENWL Training Academy, supported by relevant documentation and interview dates will then be arranged.

### 16.1.2 Delegated issue of ENWL authorisation ICP employee

This follows the same route as the authorisation in section 14.1.1 but the interview to assess competency is delegated to a nominated and suitably experienced person within the ICP.

The nominated person **shall** subject to the following criteria being satisfied be empowered to issue authorisations on behalf of ENWL.

- a) The nominated person **shall** be assessed by the System Operations Manager or their appointed deputy for suitability and appointed in writing.
- b) ENWL System Operations will train the nominated person in assessment techniques and subsequently provide technical support including the codes required for specific duties.
- c) The nominated person can subsequently schedule authorisation interviews.
- d) The ICP **shall** notify the Training Academy of the date/time/location for each person.
- e) The Training Academy will then produce an interview pack containing the interview materials and any keys to be issued.

This will contain the following:-

- Authorisation Request
- Supporting evidence/documentation
- Interview record sheet
- Question set (includes answers)
- Copy of failed questions from Competency Assessment paper
- Authorisation (in A5 format and an A4 copy)
- Safety Rules (basic rules or a full set – depends on authorisation)
- Keys (depends on request)
- Key issue record

The nominated person **shall** only interview for authorisation codes up to the same level as they themselves are authorised.

Once the interview is successfully completed the authorisation will be issued by System Operations in line with the nominated persons instructions.

### 16.2 Transfer of Control to ICP

Under this option ENWL will formally transfer operational safety management for a designated section of its HV network to the ICP. Once transfer has been completed all safety management activities and work on this transferred network are the responsibility of the ICP. The size of the network transferred **shall** be the minimum required to complete the necessary work and **shall** not normally contain any existing ENWL customers.

In order to facilitate the ICP making the final connection on HV networks the following process **shall** be utilised.

Once control has been transferred all work by the ICP will be completed under the ICP's own Safety Management System and Safety Rules.

Open points **shall** be moved and Points of Isolation (POI) established prior to transfer of control such that the minimum section of network **shall** be involved. These operations **shall** form part of a pre-planned switching programme prepared and executed by ENWL or the ICP and including the issue of the "Transfer/Return of Control and Operations" document (TROC) and the phasing out of the network.

Additionally the ICP **shall** confirm the method of phasing out to be used. If **dead** phasing is used then the ENWL SAP **shall** include this in the planned programme and complete the necessary testing prior to transfer of control.

A separate TROC **shall** be issued on site by the ENWL /SAP for both the transfer and return of control. The contact details of the ICP engineer **shall** be passed to ENWL control in case of emergency.

The network **shall** be capable of being de-energised by one device by the ICP which will then form a POI.

The ICP engineer will require access to ENWL substations they **shall** hold the appropriate level of ENWL substation access authorisation.

ENWL will provide any test bushings and earthing harnesses that may be required.

The ICP engineer **shall** contact the ENWL **Control Engineer** immediately before and immediately after a cable is spiked.

Testing and re-energisation of the circuit **shall** remain the responsibility of the ICP. Prior to re-energisation the ICP engineer **shall** contact ENWL control to inform of their intention to energise the system.

The network **shall** be returned with the same open points and POI's as issued.

All "as built" GIS drawings and System amendment forms **shall** be submitted using ENWL SATS procedure at the time of transfer of control back to ENWL.

In the event of any incident on the ENWL network, the ICP **shall** contact ENWL control immediately. If ENWL are required to retake control, the state of the network **shall** be agreed between the ICP and ENWL SAP on site, any keys made available along with details of any outstanding documents.

Phasing out **shall** be the responsibility of ENWL including proving the correct phasing.

Should any Operational Instruction (OI) apply, the contents of the OI **shall** be made clear to the ICP and fully complied with. OI's may prevent the transfer of control being completed due to restrictions on substation access and/or switchgear operation.

The maximum duration for any transfer of control **shall** be limited to no more than 12 hours.

### 16.3 Independent operation – ICP authorisation of ICP employees

ICPs **shall** operate under their own safety rules and SMS.

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The ICP **shall** be responsible for the authorisation of its own staff and contractors. The relevant competence requirements **shall** include any network specific issues identified by the ICP following consultation and communication with ENWL.

All necessary network drawings will be updated by the ICP in line with ENWL SATS process.

This procedure **shall** only apply to work on LV networks using **live** jointing techniques.

## 17 Emergency Imported Staff

Emergency imported personnel can be authorised to carry out the same work activities in Electricity North West as they would normally carry out according to their existing authorisation from another DNO.

A copy of their written authorisation will be taken as proof of their current authorisation. If their authorisation does not exactly match that of Electricity North West then they will be given the nearest equivalent authorisation. This should be at the level below their company authorisation.

Prior to commencing work within Electricity North West they will be briefed and authorised by staff in accordance with CP604 - Electricity North West Incident Management Plan.

See Appendix E13 for model form of authorisation and CP604 Appendix F.

## 18 Authorisation Sections

### 18.1 Introduction

Authorisations are split into three distinct sections:

- Competency (see Appendix B)
- Substation Access (see Appendix C)
- Operational Authorisation (see Appendix D)

In order to determine the competency, substation access or authorisation required the procedure detailed below should be followed.

### 18.2 Identification of Training and Authorisation Requirements

To identify the competency, substation access or authorisation required select the work activity from the Work Activity section (see Appendix A) and then look up the appropriate code under the work activity eg if the authorisation code for LV mains jointing is required look in the cables section under LV jointing and select the appropriate code number.

Once the authorisation code number has been identified the full code wording and the training requirements can be found by looking in the Competency, Substation Access or Operational Authorisation sections, ie Appendices B, C or D.

The requirements for each authorisation code are detailed in the following standard format:

Code	Wording that will appear on the authorisation
<b>Qualifications</b>	Any minimum educational standards
<b>Experience</b>	Experience required prior to formal training
<b>Formal Training</b>	Training requirements
<b>On Job Training</b>	Agreed modules following formal training
<b>Refresher</b>	Refresher training required / CA
<b>Assessment</b>	By nominated assessor / Completion of CA
<b>Interview</b>	System Ops Engineer / nominated person


Notes added to the above provides further guidance / clarification on what is included within the authorisation.

Nominees will only be accepted on the formal training programme if they have the appropriate qualifications and experience. Failure to comply with the requirements of the training programme will result in the authorisation being refused.

A blank box in any of the above categories means that there are no specific requirements in that category for the authorisation.

Where an assessment has been carried out by an Electricity North West appointed assessor the requirement for an interview will be at the discretion of the System Operations Manager.



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### 18.3 Work Activity

Appendix A details the authorisation codes available associated with competencies, substation access or operational authorisations.

### 18.4 Competency

Appendix B details the authorisation codes numbered 100 to 199. These codes cover staff competencies.

### 18.5 Substation Access

Appendix C details the authorisation codes numbered 200 to 299. These codes cover substation access.

### 18.6 Operational Authorisation

Appendix D details the authorisation codes numbered 300 and above. These codes cover operational authorisations.

## 19 Authorisation Routes

Appendix E provides additional details on how to achieve various levels of authorisation based on trade types and provide flow charts showing the authorisation routes.

Authorisation Routes	
E1	Authorisation route for Jointers
E2	Authorisation route for Lineworkers
E3	Authorisation route for 11kV Fitters
E4	Authorisation route for 33kV Fitters
E5	Authorisation route for fault technicians
E6.1	Authorisation route for Engineers
E6.2	Authorisation route for Engineers (progression to 33/132kV)
E7	Authorisation route for Contractor's Authorised Person
E8	Authorisation route for Apprentice Joiner
E9	Authorisation route for Apprentice Overhead Lineworkers
E10	Authorisation route for Apprentice Fitters
E11	Authorisation Route for Apprentice Transmission Electrical Fitter
E12	Authorisation Route for Apprentice Distribution Electrical Fitter
E13	Progression of Apprentices to Craft Attendant (Mate)
E14	Authorisation route for Emergency Imported Staff
E15	Authorisation Route for Higher Level Apprentices

## 20 Documents Referenced

DOCUMENTS REFERENCED	
The Electricity at Work Regulations	
DSR's	Electricity North West Limited Distribution Safety Rules
G39/1	Working in the vicinity of DNO equipment
EPD103	Employment of Contractors
CP604	Electrical Incident Management Plan
CP606	Operations Manual
CP635	Accreditation and Authorisation of ICP's
CP940	Handling, Recording, Investigation and Analysis of Incidents
EPD960	Powered Plant Competency Requirements
ES626	LV Live Jointing Regime for an ICP to undertake Metered and unmetered Connections work on Development Sites
ES627	LV Live Jointing Regime for an ICP to undertake Unmetered Connections Work on Street Furniture (Tripartite Agreement)

## 21 Keywords

Competent; Authorised; Contractors; Training.

## Appendix A – Work Activity

### A.1 Craft Descriptions

CRAFT DESCRIPTIONS	
1	Craftsperson - Tree Work
2	Craft Attendant - Tree Work
3	Independent Connection Provider's Operative
4	Supervisor
5	Team Leader
6	Craft Attendant – Jointing
7	Craft Attendant – Overhead
8	Craft Attendant - Electrical Fitting
9	Craft Attendant – Civil
10	Craft Attendant - Oil Mechanic
11	Craft Attendant - Transmission Electrician
12	Craft Attendant Jointing/Overhead
13	Craftsperson – Jointing
14	Craftsperson - Overhead Line
15	Craftsperson - Electrical Fitting
16	Craftsperson - Oil Mechanic
17	Craftsperson - Transmission Electrician
18	Craftsperson - Joints/Linesperson
19	Craftsperson - Joints/Fitter
20	Craftsperson – Civil
21	Craftsperson – Electrician

22	Craftsperson – Communications
23	Adult trainee - Craftsperson Jointing
24	Adult trainee - Craftsperson Overhead
25	Adult Trainee – Fitting
26	Higher Level Apprentice
27	Apprentice
28	Generator Operator
29	Fault Technician
30	Project Assistant
31	Project Leader
32	Project Organiser
33	Manager
34	Third Party Street Furniture Operative
35	Contractor – Electrician
36	Contractor - Craft Attendant Jointing
37	Contractor - Cable Layer Team Leader
38	Contractor – Engineer
39	Contractor - Overhead Lines
40	Contractor – Jointing
41	Contractor - Electrical Fitting
42	Contractor – CivilCraftsperson
43	Contractor - Weed Control
44	Contractor - Craft Attendant Jointing/Overhead Lines
45	Contractor - Cable Layer
46	Contractor - Tree Work

47	Contractor - Non Operational Staff
48	Telecontrol Database Maintainer
49	Telecontrol Database Manager
50	Control Engineer
51	Engineer - Distribution/Transmission
52	Communications – Engineer
53	Engineer – Telemetry
54	Emergency Imported Engineer
55	Emergency Imported Craftsperson
56	Customer Appointed Person
57	Non-Operational Staff

## A.2 Categories of Work Activities with references to Authorisations


### A.2.1 Table 1 – Substation Access

SUBSTATION TYPES	
200	All substations, compounds and buildings
201	Distribution and Primary substations
202	Distribution substations only

SUBSTATION ACCESS LIMITATIONS	
203	Excluding substations with exposed HV conductors
204	Excluding National Grid interface sites
205	Access restricted to buildings and established safe walkways in substations with exposed HV conductors
206	Work in substations with exposed HV conductors under Safety Standby only
207	The following substation(s) <free format field >
209i	Access to substations of the type shown above under the Immediate Supervision of a nominated person for the purpose of craft training only
210	Delivery and collection of materials & equipment
211	Routine compound cleaning & tidying
212	Routine maintenance of oil assisted cable equipment
213	Routine maintenance of ancillary substation equipment
217	Work on telecommunications equipment
218	Work on telemetry equipment ground level only
219	Work on Telecommunications equipment within a Telemetry enclosure
220	Washroom and toilet cleaning in substations

221	Substation inspection/cleaning and visual inspection of live LV boards
223	Routine maintenance of gas assisted cable equipment
226	Work on metering equipment
231	Work on heating and lighting circuits
237	Painting electrical plant (including receipt of Safety Document)
239	Specified minor civil trades works
241	Operation and Connection of Transformer Oil Regeneration Unit to Grid and Primary Transformers
242	Visual inspection only
243	Site surveys / measurements
245	Electrical measurements
246	Asbestos sampling and remedial work
249	Excavation in substations under issue of Limitation of Access
252	Specialised vegetation control
253	Specialised pest control services
254	Earth tape security marking
256	Vegetation control in exposed HV conductor compounds
257	Dismantling and removal of electrical equipment
278	Competent Person to shroud live LV board in indoor substations
279	PRESense Installation within LV Boards/Cabinets



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#### A.2.2 Table 2 – Substations (General)

110	Safety Standby in substations with exposed HV conductors
172	Render inoperative/restore the automatic features on fixed CO2 including the posting/removing of a Caution Notice
332	Authorised Person to supervise the movement of ladders and long objects, in substations with exposed conductors, to the instructions of a Senior Authorised Person
334	Authorised Person to supervise the movement of cranes, scaffolds and other vehicles, in substations with exposed conductors, as defined by and to the instructions of a Senior Authorised Person

#### A.2.3 Table 3 – Cables (LV Jointing)

122	LV cable jointing (live working)
125	LV Underground service fault location and repair (live working)
155	LV Service jointing (live working) (excluding service to mains jointing)
157	LV service jointing (live working)
159	LV jointing on Waveform cables only (live working)

#### A.2.4 Table 4 – Cables (HV Jointing)

120	Cable terminations up to 11kV
123	11/6.6kV cable jointing Triplex cables only (inc terminations)
124	11/6.6kV cable jointing
127	33kV cable jointing
128	132kV cable jointing

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#### A.2.5 Table 5 – Cables (Assisted Cables)

150	Work on oil assisted cable systems
151	Assist Craftsperson (oil assisted cable systems)
152	Work on gas assisted cable systems
153	Assist Craftsperson (gas assisted cable systems)

#### A.2.6 Table 6 – Cables (Miscellaneous)

104	Assist Craftsperson (jointing)
105	Assist Craftsperson (Cut-outs only)
173	Assist Craftsperson (Safety Mate ONLY)

#### A.2.7 Table 7 – Cut-outs

100	Remediation of fused neutrals
111	Work on Single phase, plastic only, non compound filled, LV service termination equipment for the purposes of removal/ replacement of cut-out fuses and shrouds (excludes work on the live incoming terminals)
116	Work on service termination equipment including removal/replacement of cut-out fuse and shrouds (excludes work on the live incoming terminals)
117	Replacement of single phase cut-outs and all insulated single pole 3-phase units up to 100A (live working)
119	Replacement of single phase all insulated cut-outs only (live working)
126	Work on service termination equipment including removal of illegal connections from the incoming terminals (must be accompanied for work on live incoming terminals)
164	Replacement of single phase cut-outs (live working)

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#### A.2.8 Table 8 – Overhead Lines (Low Voltage)

129	Mural wiring (dead working)
130	LV overhead lines (live working)
139	Assist Craftsperson LV overhead lines (live working)
163	Low voltage live line pole erection

#### A.2.9 Table 9 – Overhead Lines (High Voltage)

131	Assist Craftsperson - wood pole lines (dead working)
132	Wood pole lines up to 33kV (dead working)
134	Wood pole lines up to 132kV (dead working)
147	Signing & guarding on wood pole lines
190	Overhead line support team member - wood pole (ground work only)
192	Patrolling of wood pole lines during emergency conditions
194	Work on dead 33kV wood pole lines
199	Inspection of wood pole lines inc. conductor height measurement

#### A.2.10 Table 10 – Overhead Lines (Towers)

137	Work on steel tower lines up to 132kV (Team Member)
138	Work on steel tower lines up to 132kV
161	Tower painting - steel tower lines
188	Painting Rigger – Steel Tower Lines Up 132kV
191	Overhead line support team member – steel tower (ground work only)

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**A.2.11 Table 11 – Overhead Lines (HV Live Line Work)**

323	Authorised Person as a driver for HV live line pole erection
324	Authorised Person to carry out 11kV Rubber Glove live line work
326	Authorised to operate pole mounted and switchgear mounted auxiliary switches controlling auto reclose facilities and attach Caution Notices
333	Competent to carry out HV live line pole erection
335	Authorised to supervise HV live line pole erection
359	Authorised Person to fit bird flight diverters and Fault Passage Indicators in accordance with CP423 Section 1, Procedure 08/20 to live 11/6.6kV overhead lines from ground level.
398	Authorised to carry out Red Band Working in accordance with CP606 Procedure A12
399	Authorised to fit line trackers to live 6.6/11kV overhead lines in accordance with CP423

**A.2.12 Table 12 – Overhead Lines (Tree Work)**

174	Assist in the application/removal of portable earths on dead wood pole lines
501	Contractor only - Tree cutting work adjacent to dead Overhead Lines up to 11kV under Supervision of an ENWL Safety Document holder OR an ENWL LV competent Person
502	Contactar Only – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
503	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Ground based felling and pruning.
504	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Aerial cutting from MEWP in line with competency / qualifications held
505	Contractor Only – Tree Cutting adjacent to DEAD overhead lines. Aerial cutting from Rope and Harness (Climbing Ops)
506	Contactar Only – Tree Cutting adjacent LIVE Overhead Lines up to 33kV with Insulated rods
507	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 132kV - Ground based felling and pruning

508	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines upto 11kV – Aerial cutting from MEWP
509	Contractor Only – Tree Cutting adjacent to LIVE Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (climbing Ops)
601	Utility Arborist – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
602	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Ground based pruning.
603	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from MEWP
604	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Ground based Felling Operation
605	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from Rope and Harness (Climbing Ops)
606	Utility Arborist – Tree Cutting adjacent <b>LIVE</b> Overhead Lines up to 132kV – Ground based pruning
607	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 132kV - Ground based felling
608	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 11kV – Aerial cutting from MEWP
609	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (Climbing Ops)
610	Utility Arborist – Surveying

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#### A.2.13 Table 13 – Electrical Fitting


143	Switchgear installation - Distribution substations
144	Assist Craftsperson (Electrical Fitting)
145	Electrical Fitting (11/6.6kV)
146	Work on LV fuseboard/pillars (live working)
154	Electrical Fitting (Grid & Primary)
156	Switchgear installation - Grid & Primary substation
160	Maintenance of underground link boxes (live working)
176	Maintain substation batteries
177	Refurbishment and Upgrade of Long and Crawford 6.6/11kV Oil Filled Switchgear

#### A.2.14 Table 14 – Metering

165	Work on metering VT/CT secondary wiring
167	Work on single phase metering supplied from 3 phase plastic cut-outs

#### A.2.15 Table 15 – LV Authorisation

314	Authorised Person to replace LV fuses and/or attach LV fault restoration devices
315	Authorised Person to carry out LV operations
317	Authorised Person to remove/replace LV fuses and post Caution Notice, test dead and apply LV portable earths and post Caution Notice on the LV overhead system only (pre-arranged work only) for the purposes of planned tree clearance work.
318	Authorised Person to carry out LV operations on the overhead system (pre-arranged work only)
319	Authorised Person to carry out LV operations on the overhead system
320	Authorised Person to carry out LV operations on the underground system

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321	Authorised Person to carry out LV operations on the underground system (pre-arranged work only)
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**A.2.16 Table 16 – HV Authorisation**

309	Authorised Person to carry out HV operations up to 11/6.6kV limited to pre-arranged work
330	Authorised Person to operate HV pole mounted DOEF's links air break switches auto-reclosers and auto-sectionalisers
331	Authorised for fault restoration switching only at 11/6.6kV to operate DOEF's links air break switches auto-reclosers and auto-sectionalisers
340	Authorised Person to operate ground mounted switchgear at 11/6.6kV
353	Authorised Person to carry out HV operations up to 11/6.6kV
362	Authorised Person to operate on the 33kV and associated lower voltage system
363	Authorised Person up to 33kV
372	Authorised to operate at 132kV and associated lower voltage
373	Authorised Person up to 132kV
394	Authorised Person at 11/6.6kV for fault restoration switching (switches and circuit breakers)
396	Authorised Person for fault restoration (switches only) at 11/6.6kV
440	Authorised Person to operate pole mounted switchgear at 11/6.6kV (pre-arranged work only)
441	Authorised Person to operate ground mounted switchgear at 11/6.6kV (pre-arranged work only)

	AUTHORISATION	614
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**A.2.17 Table 17 – HV Authorisation (Special)**

280	Customer appointed persons site specific code for BNFL Salwick
281	Customer appointed persons site specific code for Manchester Airport
282	Customer appointed persons site specific code for Manchester Royal Infirmary
283	Customer appointed persons site specific code for TFM Hillhouse
285	Access to Sellafield 132kV GIS 609378 & 609379 (Building B928) and AGR 609377 including their associated Open Busbar Compounds for carrying out remote operation of Sellafield owned 11kV Switchgear, under Electricity North West control, associated with GT's 2,3,9,10, 11 & 12
339	Authorised Person to issue/cancel Limitation of Access for excavation and cable laying work only in distribution substations
345	Authorised Person to issue/ cancel LOA for work on telecomms/telecontrol equipment
348	Authorised Person to operate Electricity North West equipment as stated
351	Authorised Person to issue/cancel LOA for civil works only
377	Authorised Person at 33kV and associated lower voltage system limited to CLASS AVC Replacement Work. Authorised to work to a Planned Switching Programme (with all circuit breaker open/close operations carried out by the Control Engineer) and issue/cancel LOA's for CLASS replacement work
384	Authorised Person to carry out Live Tank Oil Sampling in accordance with CP606 Procedure S43
398	Authorised Person to carry out Red Band Working
399	Authorised Person to fit Fault passage indicators to live 11/6.6kV overhead lines
409	CNS Limited Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only)



	AUTHORISATION	614
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**A.2.18 Table 18 – Limited Senior Authorisation**

300	LSAP limited to issuing/ cancelling LOAs for plant maintenance up to 11kV
301	Limited Senior Authorised Person - Limited to plant maintenance up to 11kV
302	LSAP limited to issuing/cancelling LOAs on the 33kV system including the 11/6.6kV bus-section and transformer circuit breakers for plant maintenance
303	LSAP limited to issuing/cancelling PTW, SFTs, LOAs on the 33kV system including the 11/6.6kV bus-section and transformer circuit breakers for plant maintenance
305	Now Blank
337	LSAP limited to issuing/cancelling LOA for protection work on systems up to 33kV/132kV
397	Senior Authorised Person up to and including 11kV, limited to overhead lines, excluding operating ground mounted switchgear
407	CNS Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only) (ground mounted switchgear only)
410	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only) (ground mounted switchgear only)
415	LSAP limited to issuing PTW, SFTs, LOAs for plant maintenance up to 11kV on COMA networks having only one point of isolation
416	LSAP limited to plant maintenance up to 11kV on COMA customers plant but excluding work in exposed LV and HV conductor sites and systems with LV interconnection or ENW LV network connections. Includes planned switching on ground mounted Electricity North West equipment to release the COMA plant for work
445	Senior Authorised Person at 6.6/11kV, limited to overhead lines (pre-arranged work only), excluding operating ground mounted switchgear
446	Senior Authorised Person at 6.6/11kV, limited to ground mounted switchgear and underground cables (pre-arranged work only)
448	Senior Authorised Person at 11/6.6kV, limited to ground mounted switchgear and underground cables

	AUTHORISATION	614
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**A.2.19 Table 19 – Senior Authorisation**

310	SAP up to 11/6.6kV – limited to pre-arranged work only
352	SAP at 33kV
356	SAP up to 11/6.6kV
357	SAP at 132kV
366	SAP up to 33kV
376	SAP up to 132kV

**A.2.20 Table 20 – Field Control**

306	Field Control Engineer on 33kV system limited to pre-arranged work
307	Field Control Engineer for Plant Maintenance up to 11kV
308	Field Control Engineer on 132kV system limited to pre-arranged work
311	Field Control Engineer on overhead systems up to 11kV
338	Field Control Engineer limited to issue/cancellation LOA for protection work up to 33kV/132kV
360	Field Control Engineer up to 11/6.6kV
361	Field Control Engineer up to 11/6.6kV limited to pre-arranged work
369	Field Control Engineer at 33kV
379	Field Control Engineer at 132kV

**A.2.21 Table 21 – Control**

358	SAP & Control Engineer on the 11/6.6kV system
365	Senior Authorised Person and Control Engineer on the 33kV systems and associated lower voltages, including telecontrol operation
367	Senior Authorised Person and Control Engineer on the 132kV systems and associated lower voltages, including telecontrol operation

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375	LSAP & Control Engineer for CLASS commissioning
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#### A.2.22 Table 22 – Safety Documents (Miscellaneous)

102	Receive/Clear LOA
195	Receive/Clear PTW / LOA
354	Authorised Person to receive/clear a SFT on the 11/6.6kV system
355	Authorised Person to receive/clear a SFT on the 33/132kV system
368	Authorised Person to issue/cancel LOA's for vegetation control only in sites with exposed HV conductors

#### A.2.23 Table 23 – HV Authorisation (Special)

118	Work on protection equipment at 33kV
121	Work on protection equipment at 132kV
162	Work on telemetry equipment on wood pole lines above the ACD.
166	Work on protection VT/CT secondary wiring
178	Receive/clear LOA for work on protection systems on the 33kV network (including associated 11/6.6kV)
179	Receive/clear LOA for work on protection systems on the 132kV network (including associated 33kV)
180	Receive/clear LOA for Maintenance protection testing ONLY, on the 33kV network (including associated 11/6.6kV)
182	Receive/clear LOA for Maintenance protection testing ONLY, on the 132kV network (including associated 33kV)
342	Authorised Person to carry out Telecontrol Database Management tasks subject to the approval of the Control Engineer
343	Authorised Person to carry 11/6.6kV Telecontrol operations to instructions of the Control Engineer

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344	Authorised Person to switch 'off' and 'on' SEF and AR protection and allow disable/enable protection supply on Polarr relays connected to GVRs and to carry out test operations on Telecontrol equipment at outstations to the instructions of the Control Engineer.
347	Authorised Person to carry out local/remote switching for the sole purpose of testing and commissioning telecontrol outstations to actuators not connected to the system.
350	Authorised Person to carry out Telecontrol Database Maintenance tasks subject to the approval of the Control Engineer
364	Authorised Person to operate on the 11/6.6kV system, to a planned switching programme, for moving open points for the sole purpose of testing and commissioning telecontrol outstations

#### A.2.24 Table 24 – Stand by Test Van

115	Stand by test van and substation to prevent unauthorised access
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#### A.2.25 Table 25 – Mobile Generators

107	Stand by generator and substation to prevent unauthorised access whilst the generator is connected to the LV network
168	Connect generator to dead LV overhead system
169	Connect generator to dead LV underground system
170	Connect generator to dead LV system
171	Connect generator to dead LV underground system excluding substations
175	Connect generator to dead LV system and synchronise to live LV system

#### A.2.26 Table 26 – Third Party

114	Work on street furniture LV services termination equipment including removal/replacement of LV cut out fuses and shrouds but excludes work on the incoming terminals
140	ICP HV cable jointing
141	ICP LV service cable jointing (live working)

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142	ICP LV cable jointing (live working)
148	ICP LV street furniture service cable jointing (live working)

#### A.2.27 Table 27 – Miscellaneous

103	Inspection & test customer's installation prior to re-energisation following neutral fault
106	Install RTU/Actuator to ground mounted switchgear CP306 FM9 001 & FM9 002
108	Top up SF <sub>6</sub> units and take gas samples (Including Gas Carts)
109	Top up SF <sub>6</sub> units and take gas samples (Excluding Gas Carts)
112	Checking linking arrangements in underground link boxes and feeder pillars
113	Fitting of Blast Mitigation Measures (Link Boxes Only)
149	Install / Commission App based Actuator to ground mounted switchgear to CP306 Module FM9 004
158	Inspection, including checking and tightening of connections, in link boxes and feeder pillars
186	Visual Inspection only in LV Feeder Pillars & Cabinets.
187	Earth security marking on the OH network
198	Installation of LV monitoring equipment in substations in accordance with CP303
304	Extension of authorisation under emergency conditions
390	Authorising Engineer
525	Installation & commissioning of Linesight overhead line equipment only (Dead work)

## Appendix B – Competency Authorisation Codes

### B.1 Authorisation Codes 100-199

<b>100</b>	Removal/replacement of cut-out fuses on single phase cut-outs. Replacement of neutral fuse with neutral link to CP411N ST 13.8. Installation of neutral block to CP411N ST13.7 Section 7. Replacement of cut-out to meter tails where required. Testing on incoming terminals. (excludes work on incoming terminals).
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	3 months relevant experience as a Competent Person
<b>Formal Training</b>	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations <b>and</b> LVJ017 – Neutral Fuse Replacement and Neutral Block Installation
<b>On Job Training</b>	On-job training under Personal Supervision – 5 fused neutral cut-outs and neutral block installations.
<b>Refresher</b>	H200CA Electrical Competency Accreditation every 3 years
<b>Assessment</b>	Practical assessment at the Training Academy.
<b>Interview</b>	System Operations Engineer / Nominated Engineer

<b>101</b>	Competent Person to remove the pavement cover and blast bag of LV Link Boxes for Civil Remedial Work
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<b>Qualifications</b>	Civil Tradesperson
<b>Experience</b>	
<b>Formal Training</b>	NRSWA 003 for ENWL Operatives or SW1 – street works qualification for contractors <b>AND</b> CT053 – Fitting of blast mitigation measures (link boxes only) including relevant safety checks
<b>On Job Training</b>	Removal and replacement of 5 pavement covers and blast bags under personal supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:** This code allows for the Civil remedial work of LV link Boxes only – it does not allow access to HV cable pits.

<b>102</b>	Receive/Clear LOA
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<b>Qualifications</b>	
<b>Experience</b>	Competent Person with minimum 3 months relevant experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision including the receipt of 5 Limitation of Access
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Work Activity Code also required.



103	
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

Code no longer available – existing holders to retain.

<b>104</b>	Assist Craftsperson (Jointing)
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<b>Qualifications</b>	
<b>Experience</b>	Minimum of 3 months relevant experience
<b>Formal Training</b>	JM001 - Jointer's Mate Training <b>OR</b> JM004 Jointers mate electrical safety module for experienced contract staff <b>AND</b> NRSWA 003 for ENWL Operatives or SW1 – street works qualification for contractors
<b>On Job Training</b>	If not attended NRSWA 003/SW1 course then on-job training on the interpretation of Standard Mains Records and use of Cable Avoidance Tool (CAT)
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

105	Assist Craftsperson (Cut-outs only)
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<b>Qualifications</b>	
<b>Experience</b>	Minimum of 2 weeks relevant experience
<b>Formal Training</b>	JM001 - Joints Mate Training OR JM004 Joints mate electrical safety module for experienced contract staff
<b>On Job Training</b>	On job training under personal supervision as a third person
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Code to be used to assist Electricians specifically trained for cut-out change work holding code 119.

This code is only to be used for Mates for the changing of single phase cut-outs (live working). No understanding of mains records or safe digging practices is expected.

Code enables staff to work independently, subject to relevant training and experience, for cut-out site surveys including non-intrusive current / voltage measurements using Rogowski Coil / Fluke etc.

106	Install RTU/Actuator to ground mounted switchgear CP306 FM9 001 & FM9 002
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<b>Qualifications</b>	Electrical Craft Training
<b>Experience</b>	Working in Electricity North West distribution environment for minimum 6 months
<b>Formal Training</b>	
<b>On Job Training</b>	Modular training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under the Personal Supervision of mentor) 2 actuator installations.
<b>Interview</b>	System Operations Engineer or nominated deputy.

**NOTE:** See CP306 Module FM9 001 & FM9 002

Authorisation does not include installation of fuse spur for LV connection (Authorisation Code 231 required for work on power and lighting circuits)

<b>107</b>	Stand by a generator for safety and to prevent unauthorised access whilst the generator is connected to the LV network
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	CP613 Demonstrate on site to AP holding generator connection codes a full understanding of safety requirements
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation for Craft Attendants and non-electrical staff

Not required for Craftspersons ie Jointers / Linesperson / Fitters / Electricians

Substation access required if standing by unsecured substation or the generator is sited within substation grounds.

108	Top up SF <sub>6</sub> units and take gas samples (Including Gas Carts)
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<b>Qualifications</b>	
<b>Experience</b>	Electrical Engineer / Craftsperson (Fitting) / Oil/Gas Mechanic background
<b>Formal Training</b>	SF <sub>6</sub> Training Course by EA Technology (or equivalent)
<b>On Job Training</b>	Minimum of 5 operations
<b>Refresher</b>	Safe handling of SF <sub>6</sub> gas in HV switchgear - EAT
<b>Assessment</b>	Formal assessment included in on job training
<b>Interview</b>	By Nominated Assessor during Assessment

**NOTE:** Includes:

Take samples (using **approved** equipment)  
Top up chambers from bottles  
Use of gas cart to empty / refill SF<sub>6</sub> Chambers  
EAT Certificate valid for 4 years

109	Top up SF <sub>6</sub> units and take gas samples (excluding Gas Carts)
-----	---

<b>Qualifications</b>	
<b>Experience</b>	Electrical Engineer / Craftsperson (Fitting) / Oil/Gas Mechanic background
<b>Formal Training</b>	SF <sub>6</sub> Training Course by EA Technology (or equivalent)
<b>On Job Training</b>	Minimum of 5 operations
<b>Refresher</b>	Safe handling of SF <sub>6</sub> gas in HV switchgear - EAT
<b>Assessment</b>	Formal assessment included in on job training
<b>Interview</b>	By Nominated Assessor during Assessment

**NOTE:** Includes:

Take samples (using **approved** equipment)  
Top up chambers from bottles  
EAT Certificate valid for 4 years

<b>110</b>	Safety standby in substations with exposed HV conductors
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<b>Qualifications</b>	Electrical craft/craft attendant
<b>Experience</b>	Minimum of 2 years experience in substations with exposed HV conductors
<b>Formal Training</b>	FT023 - Duties of Safety Standby Personnel
<b>On Job Training</b>	On-job training under Personal Supervision (receipt of 5 LOA's)
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	On site assessment by nominated G&P SAP
<b>Interview</b>	System Operations Engineer / Nominated G&P Engineer

**NOTE:** Needs 2 years experience in substations with exposed HV conductors



<b>111</b>	Work on Single phase, plastic only, non-compound filled, LV service termination equipment for the purposes of removal/ replacement of cut-out fuses and shrouds (excludes work on the live incoming terminals)
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<b>Qualifications</b>	Electrical City & Guilds level 2 or qualified to latest IET Wiring Regs.
<b>Experience</b>	Electrical contractor/craftsperson with minimum of 3 months relevant experience
<b>Formal Training</b>	LVJ022 Basic Electrical Safety for the Inspection of Service Terminations
<b>On Job Training</b>	
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Practical Assessment during formal training course.
<b>Interview</b>	

<b>112</b>	Inspection and checking linking arrangements only in link boxes and feeder pillars
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<b>Qualifications</b>	
<b>Experience</b>	Electrical planning / design or craft background with a minimum of 6 months experience
<b>Formal Training</b>	ENG/EO1162 – Visual Inspection link boxes and feeder pillars
<b>On Job Training</b>	On-job training under personal supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above

<b>113</b>	Fitting of Blast Mitigation Measures (Link Boxes Only)
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<b>Qualifications</b>	
<b>Experience</b>	Competent Person
<b>Formal Training</b>	CT051 – Fitting of blast mitigation measures (link boxes only) including relevant safety checks
<b>On Job Training</b>	On-job training under personal supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:** Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above
- Competent persons holding code 158

NB: This was the old 'Competent Person for the inspection of cable bridges' (no longer used/available - current holders retain entitlement)

<b>114</b>	Work on street furniture LV service termination equipment including removal and replacement of the cut-out fuse and shroud (excludes work on the incoming terminals)
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<b>Qualifications</b>	G39 external certificate
<b>Experience</b>	6 months minimum relevant experience with Highway Authority / Contractor
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Issued to Local Authority staff / contractors only

115	Stand by test van and substation to prevent unauthorised access
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<b>Qualifications</b>	
<b>Experience</b>	Competent Person with substation access authorisation and minimum of 3 months experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation for Craft Attendants and non-electrical staff

Substation access authorisation also required.

Not required for electrical Craftsmen with substation access authorisation ie Jointers / Linesperson / Fitters / Electricians.

<b>116</b>	Work on LV service termination equipment including removal/ replacement of cut-out fuses and shrouds. Testing on incoming terminals. (excludes work on incoming terminals).
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum of 3 months relevant experience
<b>Formal Training</b>	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Not required for staff who are LV AP's or who hold LV live working codes (Code 117; Code 122; Code 130)

Includes work on Mod 156 panels and Bemco fuse units – subject to training and experience.

<b>117</b>	Replacement of single phase cut-outs and all insulated single pole 3-phase units up to 100A (live working)
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum of 3 months relevant experience holding code 122 in full.
<b>Formal Training</b>	LVJ016 - Basic Electrical Safety for the Inspection and Testing of Service Terminations
<b>On Job Training</b>	On-job training under Personal Supervision with a minimum of 25 single phase insulated, 5 all insulated single pole 3-phase and 15 single phase metal clad (of three different types) cut-outs changed and satisfactory level of hazard assessment achieved
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Includes single phase all insulated cut-outs and metal clad cut-outs of the type **approved** for live changing.

Requirement to assess hazards associated with suspect cables/terminations and decide on live or dead working.

118	Work on protection equipment at 33kV
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	33kV SAP Engineer with minimum 6 months experience on 33kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	Nominated Engineer

**NOTE:** Authorisation allows suitably authorised SAP's to carry out protection investigations



119	Replacement of single phase all insulated cut-outs only (live working)
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum of three months experience of live LV working / Electrician specifically trained for this work
<b>Formal Training</b>	LVJ014 - REPLACEMENT OF INSULATED SINGLE PHASE CUT OUTS - LIVE WORKING - PLASTIC CUT-OUTS ONLY
<b>On Job Training</b>	On-job training under Personal Supervision with a minimum of 25 cut-outs changed and satisfactory level of hazard assessment achieved
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only

Interview to determine understanding of risk assessments and requirements of live working. Must understand there is always the option to carry out work dead by authorised jointers.

120	Make cable terminations up to 11kV
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum 6 months experience
<b>Formal Training</b>	HVJ001a - HV JOINTING 6.6 /11KV POLE TOP (POLY OUTDOOR) TERMINATIONS - TRAINING COURSE OR HVJ002a - HV JOINTING 6.6 /11KV SWITCHGEAR (POLY INDOOR) TERMINATIONS - TRAINING COURSE
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Trade test assessment by Jointing trainer
<b>Interview</b>	System Operations Engineer

**NOTE:** Can include, subject to training and experience:

Pole top terminations (for suitable trained Linesperson)

or

Switchgear terminations (for suitably trained Electrical Fitters)

Authorisation not required for HV cable jointers (holding Code 124)

<b>121</b>	Work on protection equipment at 132kV
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	132kV SAP Engineer with minimum 6 months experience on 132kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	Nominated Engineer

**NOTE:** Authorisation allows suitably authorised SAP's to carry out protection investigations

<b>122</b>	LV cable jointing (live working)
<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Apprentice / Adult Trainee <b>OR</b> (for experienced Contractors) Equivalent training and a minimum of 3 months experience holding code 157 (Module 1)
<b>Formal Training</b>	Module 2 – mains joints and terminations comprising; LVJ005 – LV Waveform/Waveform Jointing LVJ006 – LV Waveform/PILC jointing LVJ007 – LV Waveform/CONSAC jointing (optional) LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Link box <b>PLUS</b> LVJ015a and b – New LV Jointing Techniques <b>OR</b> Assessment and CAG only for experienced contractors
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – jointing assessment LVJ015b – LV Jointing electrical safety module (CAG)
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes work on all LV cables within the limits of the individuals training and experience

Includes link box inspection and testing

<b>123</b>	11/6.6kV cable jointing – Triplex cables only (inc terminations)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of 6 months as a Craftsperson Joiner
<b>Formal Training</b>	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	HVJ009 HV Jointing Electrical Safety Module CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

NB: This was the old CONSAC cable code (not used for some time and no longer available) – Now included in Code 122  
Replace with Code 122 for existing holder on Authorisation renewal

124	11/6.6kV cable jointing
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Apprentice / Adult Trainee <b>OR</b> Minimum of 6 months as a Craftsperson Joiner
<b>Formal Training</b>	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing HVJ004 Mod 4 – HV Jointing 6.6/11kV (paper/poly) Jointing <b>Optional</b> HVJ005 Mod 5 – HV Advanced Jointing Special – (not required for standard HV jointing)
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	HVJ009 - HV Jointing Electrical Safety Module CAG HVJ011 – HV trade test for experienced persons
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/ clearance of PTW / LOA

<b>125</b>	Underground service fault location and repair (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electricity North West cable jointer with :- 12 months experience holding Code 122 <b>AND</b> Code 117 in full for a minimum of 3 months
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision (3 months)
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Excludes fault work on LV mains

NB this code is for Single phase service faults only

Not required for staff holding Code 315 or Code 320

<b>126</b>	Work on service termination equipment including removal of illegal connections from the incoming terminals (must be accompanied for work on live incoming terminals)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrician / Electrical craftsman
<b>Formal Training</b>	LVJ016 - basic electrical safety for the inspection and testing of service terminations
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Code specifically for Revenue Protection staff



127	33kV cable jointing
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electricity North West HV Joints / Contractor 33kV Joints
<b>Formal Training</b>	ED265 - 33kV PILC Polymeric Cable Jointing <b>OR</b> ED210A - 33kV Gas Filled Cable Jointing <b>OR</b> ED210B - 33kV Oil Filled Cable Jointing <b>OR</b> HVJ18 - 33kV Jointing Assessment for Contractors
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	ED860AT Electrical Competency Accreditation
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

Includes jointing on all 33kV cables (including Gas / Oil assisted cables)

<b>128</b>	132kV cable jointing
<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electricity North West HV Jointer / Contractor 132kV Jointer
<b>Formal Training</b>	ED280 - 132kV XLPE Cable Jointing <b>OR</b> 132kV Jointing Assessment for Contractors <b>OR</b> 132kV Cable Manufacturers Training and Certification <b>OR</b> Evidence of training / experience of maintenance of 132kV cable systems
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	ED860AT Electrical Competency Accreditation
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

Includes jointing on all 132kV cables (including Gas / Oil assisted cables)

129	Work on mural wiring (dead working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrician / Electrical craftsperson Minimum of 3 months relevant experience
<b>Formal Training</b>	ED91 - Mural and service wiring for Electricians
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

130	LV Overhead Lines (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Overhead craftsperson (Code 132) with a minimum of 6 months experience
<b>Formal Training</b>	OH004 - LV Live Line Working <b>AND</b> OH034 - Working at height/wood pole rescue
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH034 - Working at height/wood pole rescue
<b>Assessment</b>	OH029 Assessment & CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Can remove / replace LV pole mounted fuses for testing purposes only

<b>131</b>	Assist Craftsperson - wood pole lines (dead working)
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<b>Qualifications</b>	
<b>Experience</b>	Minimum of 3 months relevant experience
<b>Formal Training</b>	OH001 Overhead mate <b>OR</b> Training and experience of an equivalent standard outside of Electricity North West <b>AND</b> OH034 - Working at height/wood pole rescue <b>AND</b> OH030 - Overhead Line Patrolling
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH034 - Working at height/wood pole rescue
<b>Assessment</b>	OH037 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
<b>Interview</b>	System Operations Engineer


<b>132</b>	Wood pole lines up to 33kV (dead working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with DNO experience and craft training / experience on wood pole lines
<b>Formal Training</b>	OH003 – O/H distribution Lines LV/HV dead work up to 33kV <b>AND</b> OH034 - Working at height/wood pole rescue
<b>On Job Training</b>	Completion of on job training record book for ENWL employees
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH034 - Working at height/wood pole rescue
<b>Assessment</b>	OH037 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes LV dead pole work (including ABC)

Includes, where necessary, LV testing for phase rotation / polarity before and after work

Also requires Code 195 for receipt/clearance of PTW / LOA

 Bringing energy to your door	AUTHORISATION	614
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133	Work on ABC conductor systems
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** Code no longer available (to be removed on authorisation renewal)

Work on ABC included in Code 132 (for dead working) and Code 130 (for live working)

<b>134</b>	Wood pole lines up to 132kV (dead working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of apprenticeship / adult trainee programme to include construction of Trident lines <b>OR</b> Contractor with DNO experience and craft training / experience on wood pole lines (including Trident)
<b>Formal Training</b>	ED850 - Adult Trainee Overhead Lines <b>AND</b> H588 - O/H line rescue techniques (wood pole)
<b>On Job Training</b>	Completion of on job training record book for ENWL employees
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> H592 - O/H line rescue (refresher) wood pole
<b>Assessment</b>	H107 - Electrical Safety on Wood Pole Overhead Line Systems (Contractor Assessment)
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes, where necessary, LV testing for phase rotation / polarity before and after work

Also requires Code 195 for receipt/clearance of PTW / LOA



<b>135</b>	Tree cutting work adjacent to live overhead lines up to 11kV	
	<b>Qualifications</b>	ENWL UA2 or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
	<b>Experience</b>	3 months UPS (or previous relevant experience)
	<b>Formal Training</b>	VM011 – Live Line Tree Cutting <b>AND</b> CS38 – Climbing and rescue. <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	<b>Completion of ENWL UA2</b> work book under personal supervision
	<b>Refresher</b>	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
	<b>Assessment</b>	CAG and ENWL UA2 assessment
	<b>Interview</b>	System Operations Engineer + Vegetation Management Trainer

**NOTE:** No Longer available. Existing holders to retain until migration to new codes

<b>136</b>	Tree cutting work adjacent to live overhead lines up to 11kV working from ground only	
<b>Qualifications</b>	NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent	
<b>Experience</b>	3 months UPS (or previous relevant experience)	
<b>Formal Training</b>	VM011 – Live Line Tree Cutting <b>AND</b> CC008a – Celox and Tourniquet Application	
<b>On Job Training</b>	On-job training under Personal Supervision (3 months / min 5 jobs)	
<b>Refresher</b>	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3	
<b>Assessment</b>	CAG and ENWL UA2 assessment	
<b>Interview</b>	System Operations Engineer + Vegetation Management Trainer	

**NOTE:** No Longer available. Existing holders to retain until migration to new codes

<b>137</b>	Work on steel tower lines up to 132kV (Team Member)
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<b>Qualifications</b>	
<b>Experience</b>	Overhead line training for tower lines and a minimum of 3 months experience
<b>Formal Training</b>	OH036 - Electrical Safety on Steel Tower Overhead Line Systems <b>AND</b> OH013 Rescue from a Steel Tower
<b>On Job Training</b>	On-job training under Personal Supervision for Electricity North West employees
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH013 Rescue from a Steel Tower
<b>Assessment</b>	OH036 - Electrical Safety on Steel Tower Overhead Line Systems
<b>Interview</b>	System Operations Engineer

138	Work on steel tower lines up to 132kV
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with DNO experience and craft training / experience on tower lines
<b>Formal Training</b>	OH007 Transmission OH Steel Tower working up to 132kV <b>AND</b> OH013 Rescue from a Steel Tower
<b>On Job Training</b>	On job training under Personal Supervision for Electricity North West employees.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH013 Rescue from a Steel Tower
<b>Assessment</b>	OH036 - Electrical Safety on Steel Tower Overhead Line Systems
<b>Interview</b>	Nominated Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

<b>139</b>	Assist Craftsperson - LV overhead lines (live working)
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<b>Qualifications</b>	
<b>Experience</b>	Overhead line Craft Attendant (Code 131) with minimum of 3 months experience <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	OH002 – Overhead mate Live LV Line Working <b>OR</b> OH034 - Working at height/wood pole rescue
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA - Electrical Competency Accreditation OH034 – Working at height/wood pole rescue
<b>Assessment</b>	Completion of on-job training
<b>Interview</b>	System Operations Engineer

140	ICP HV cable jointing
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of 6 months as a Craftsperson Joiner
<b>Formal Training</b>	HVJ001 Mod 1 – HV Jointing 6.6/11kV pole top terminations HVJ002 Mod 2 – HV Jointing 6.6/11kV Switchgear terminations HVJ003 Mod 3 – HV Jointing 6.6/11kV (poly/triplex) Jointing HVJ004 Mod 4 – HV Jointing 6.6/11kV (paper/poly) Jointing
<b>On Job Training</b>	
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	HVJ011 – HV Trade Test (For Experienced Persons) HVJ009 – HV Jointing Electrical Safety Module
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

<b>141</b>	ICP LV service cable jointing (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craftsperson Joiner (employed by NERS accredited company)
<b>Formal Training</b>	Module 1 comprising; LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing <b>OPTIONAL</b> LVJ004 – Service / CONSAC Mains Jointing
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes service to mains joints

<b>142</b>	ICP LV cable jointing (live working)
<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craftsperson Joiner (employed by NERS accredited company)
<b>Formal Training</b>	Experienced craftsperson should be trained to 122 equivalent covering all the following:- LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing LVJ005 – LV Waveform / Waveform Jointing LVJ006 – LV Waveform / PILC Jointing LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Linkbox <b>OPTIONAL</b> LVJ004 – Service / CONSAC Mains Jointing LVJ007 – LV Waveform / CONSAC Jointing
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
<b>Interview</b>	System Operations Engineer



<b>143</b>	Switchgear installation – Distribution substations
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craft training / experience on electrical fitting (installation)
<b>Formal Training</b>	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT006 – Installation of Plant – Distribution Substations
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes:

- Switchgear assembly / installation
- Earthing installation, connections & testing

Also requires Code 195 for receipt/clearance of PTW / LOA

<b>144</b>	Assist Craftsperson (Electrical Fitting)
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<b>Qualifications</b>	
<b>Experience</b>	Training and a minimum of 3 months experience
<b>Formal Training</b>	FM001 – Fitters mates training course
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

145	Electrical Fitting (11/6.6kV)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT002 – Maintenance of Battery Systems FT003 – Maintenance of Busbar Equipment FT009 – Maintenance and Installation of Distribution Circuit Breakers and Switchgear FT024 – Lucy VRNs Cat 2 unit repairs
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

Covers all electrical fitting activities including plant & equipment installation and maintenance

<b>146</b>	Work on LV fuseboards/pillars (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Fitter
<b>Formal Training</b>	FT022 – Electrical Safety – Electrical Fitting
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>147</b>	Signing & guarding on wood pole lines
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<b>Qualifications</b>	
<b>Experience</b>	Training and a minimum of 3 months relevant experience
<b>Formal Training</b>	OH017 - Signing & Guarding on wood pole overhead lines <b>AND</b> OH034 – Working at height (wood pole rescue)
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation H592 – O/H Line Rescue Refresher (Wood Pole)
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>148</b>	ICP LV street furniture service cable jointing (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craftsperson Joiner (employed by NERS accredited company)
<b>Formal Training</b>	LVJ001 – Service / Service LV jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing LVJ004 – Service / CONSAC Mains Jointing – optional <b>OR</b> Assessment only for experienced contractors
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	H200CA Electrical Competency Accreditation H592 – O/H Line Rescue Refresher (Wood Pole)
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
<b>Interview</b>	System Operations Engineer

<b>149</b>	Install / Commission App based Actuator to ground mounted switchgear to CP306 Module FM9 004
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<b>Qualifications</b>	Electrical Craft Training
<b>Experience</b>	Working within Electricity North West distribution environment for minimum 6 months
<b>Formal Training</b>	ENG/EO1170 - REFLEX RX10 Operators Training
<b>On Job Training</b>	Modular training under Personal Supervision (10 installations demonstrating different switchgear manufacturers)
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under Personal Supervision of Mentor) 2 Actuator installations and commissions
<b>Interview</b>	System Operations or Nominated deputy.

**NOTE:** See CP306 Module FM09 004

If Applicant already holds Code 106 and has completed EO1170 then Code 149 can be added without interview.

Authorisation does not include installation of fuse spur for LV connection (code 231 for work on power and lighting circuits)

150	Work on oil assisted cable systems
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation is for work on the oil system (not cable jointing)

Jointing of oil assisted cables to be carried under Code 127



<b>151</b>	Assist craftsperson (oil assisted cable systems)
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<b>Qualifications</b>	
<b>Experience</b>	Craft Attendant with training and a minimum of 3 months experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

152	Work on gas assisted cable systems
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation is for work on the gas system (not cable jointing)

Jointing of gas assisted cables to be carried under Code 127

<b>153</b>	Assist Craftsperson (gas assisted cable systems)
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<b>Qualifications</b>	
<b>Experience</b>	Craft Attendant with training and a minimum of 3 months experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

154	Electrical Fitting (Grid & Primary)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Completion of Apprenticeship / Adult Trainee programme <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT002 – Maintenance of Battery Systems FT003 – Maintenance of Busbar Equipment FT008 – Maintenance & Installation of Transmission Transformers, Circuit Breakers & Switchgear
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt/clearance of PTW / LOA

Covers all electrical fitting activities including plant & equipment installation and maintenance

155	LV Single Phase service jointing (live working – excluding mains service jointing)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Apprentice / Adult Trainee <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	LVJ001 – Service / Service LV Jointing
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
<b>Interview</b>	System Operations Engineer

156	Switchgear Installation - Grid & Primary substations
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craft training / experience on electrical fitting (installation)
<b>Formal Training</b>	FT001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) FT007 – Switchgear Installation – Grid & Primary Substations FT011 – Control & Panel Wiring
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes:

- Switchgear assembly / installation (inc. HV switchboard in Primary/Grid s/s)
- Installation of ancillary equipment eg protection panels, AVC equipment, CT, VT etc
- Installation/extension of bus-bars including exposed b/bar compounds as appropriate to authorisation
- Installation of isolators
- Installation of Cable Sealing End structures
- Installation of Neutral Earthing Resistors
- Earthing installation, connections & testing
- Battery installation

Also requires Code 195 for receipt/clearance of PTW/LOA

157	LV service jointing (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Apprentice / Adult Trainee <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	Module 1 comprising; LVJ001 – Service / Service LV Jointing LVJ002 – Service / Main Waveform LV Jointing LVJ003 – Service / PILC Mains LV Jointing <b>OPTIONAL</b> LVJ004 – Service / CONSAC Mains Jointing
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module (CAG)
<b>Interview</b>	System Operations Engineer

<b>158</b>	Inspection, including checking and tightening of connections, in link boxes and feeder pillars
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<b>Qualifications</b>	
<b>Experience</b>	Electrical planning / design or craft background with a minimum of 6 months experience
<b>Formal Training</b>	ENG/EO1163 – Inspection, including checking and tightening of connections, in link boxes and feeder pillars
<b>On Job Training</b>	On-job training under personal supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Allows for testing and tightening of connection but excludes fuse/link removal or replacement

Authorisation not required for:

- LV Jointers with Code 122
- LV (u/g) AP's and above



159	LV jointing on Waveform cables only (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Apprentice / Adult Trainee <b>OR</b> Contractor with equivalent training / experience
<b>Formal Training</b>	LVJ002 – Service / Main Waveform LV Jointing LVJ005 – LV Waveform / Waveform Jointing <b>OPTIONAL</b> LVJ008 – LV Waveform Terminations LVJ009 – LV Waveform Link box
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
<b>Interview</b>	System Operations Engineer

160	Maintenance of underground link boxes (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craftsperson (Jointing / Fitting) with 12 months experience
<b>Formal Training</b>	Modular training (F/M 3/4 - CP306)
<b>On Job Training</b>	As required
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	By Electricity North West Training Instructor
<b>Interview</b>	System Operations Engineer

<b>161</b>	Tower Painting - steel tower lines
<b>Qualifications</b>	EUSR BESC overhead lines or equivalent
<b>Experience</b>	Contractor with experience of tower painting and competence in rope access works
<b>Formal Training</b>	ED110 - Tower painting <b>AND</b> Certificate in advanced climbing / rope Access (including tower rescue)
<b>On Job Training</b>	
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> Certificate in advanced climbing / rope Access (including tower rescue) Note: non Electricity North West staff can use in-house training for rescue
<b>Assessment</b>	OH036 - Electrical Safety on Steel Tower Overhead Line Systems (Contractor Assessment) <b>AND</b> Formal instructor assessment <b>AND</b> CAG test
<b>Interview</b>	System Operations Engineer

**NOTE:** If PTW holder will also require Code 195 for receipt/clearance of PTW/LOA

162	Work on telemetry equipment on wood pole lines above the ACD.
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<b>Qualifications</b>	Telemetry Engineer
<b>Experience</b>	Must hold code 218 and Pole Top rescue
<b>Formal Training</b>	OH034 – Working at Height – Wood Pole Rescue
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	OH034 – Working at Height – Wood Pole Rescue
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or Nominated Deputy

**NOTE:** This is for site work but does NOT include any element of switching either to a simulator or to live plant or apparatus – therefore do not include any testing.

It will simply be the above the ACD version of code 218.

All switching operations will be covered under codes 350, 347 and 344.

<b>163</b>	Low voltage live line pole erection
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<b>Qualifications</b>	
<b>Experience</b>	Minimum 12 months relevant experience
<b>Formal Training</b>	ED100 – Live line pole erection and pole top inspection <b>OR</b> Authorisation and experience of LV pole erection in other DNO
<b>On Job Training</b>	LV live line pole erection under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	On site assessment
<b>Interview</b>	System Operations Engineer

164	Replacement of single phase cut-outs (live working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of two months holding code 119
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision with a minimum of 15 metal clad cut-outs (of three different types) changed and satisfactory level of hazard assessment achieved
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Training Academy
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes single phase all insulated cut-outs and metal clad cut-outs of the type **approved** for live changing.

Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working.

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only.

Assessment and Interview to determine Craft Competency in changing metal clad cut-outs, and the type of metal clad cut-outs permitted to be changed live.

165	Work on metering VT/CT secondary wiring
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum of 3 months experience
<b>Formal Training</b>	LVJ016 – Basic Electrical Safety for the Inspection and Testing of Service Terminations
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

166	Work on protection and control wiring, including VT/CT secondary wiring
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical craftsperson with minimum of 3 months experience
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Work to be carried out under issue of Safety document (Code 102 required for receipt of LOA)



<b>167</b>	Work on single phase metering supplied from 3 phase modern design plastic cut-outs only (excludes work on live incoming terminals)
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<b>Qualifications</b>	
<b>Experience</b>	Meter Operator with 6 months relevant experience
<b>Formal Training</b>	LVJ016 – Basic Electrical Safety for the Inspection and Testing of Service Terminations
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

168	Connect generator to dead LV overhead system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorised Craftsperson (o/h) with minimum of 3 months experience
<b>Formal Training</b>	CT047a – Generator Training Course
<b>On Job Training</b>	Connect generator under Personal Supervision (5 occasions)
<b>Refresher</b>	CT047b – Generator Refresher Training Course
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Not required for HV AP and above subject to training.

169	Connect generator to dead LV underground system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorised Craftsperson (u/g) with minimum of 3 months experience
<b>Formal Training</b>	CT047a – Generator Training Course
<b>On Job Training</b>	Connect generator under Personal Supervision (5 occasions)
<b>Refresher</b>	CT047b – Generator Refresher Training Course
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Not required for HV AP and above subject to training.

170	Connect generator to dead LV system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorised Craftsperson (o/h & u/g) with minimum of 3 months experience
<b>Formal Training</b>	CT047a – Generator Training Course
<b>On Job Training</b>	Connect generator under Personal Supervision (5 occasions)
<b>Refresher</b>	CT047b – Generator Refresher Training Course
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes connections to underground and overhead systems.

Not required for HV AP and above subject to training.

<b>171</b>	Connect generator to dead LV underground system excluding substations
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorised Craftsperson (u/g) with minimum of 3 months experience
<b>Formal Training</b>	CT047a – Generator Training Course
<b>On Job Training</b>	Connect generator under Personal Supervision (5 occasions)
<b>Refresher</b>	CT047b – Generator Refresher Training Course
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Allows for connection of generators to service terminations and open u/g cable ends

Not required for HV AP and above subject to training.

<b>172</b>	Render inoperative and restore the automatic feature on fixed CO2 equipment including the posting/removing of a Caution Notice
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<b>Qualifications</b>	
<b>Experience</b>	Competent Person with substation access authorisation
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Confirmation of on-job training
<b>Interview</b>	Nominated Engineer

**NOTE:** Authorisation allows a Competent Person to post a Caution Notice.

Authorisation not required for LV Authorised Persons (u/g) and above

<b>173</b>	Assist Craftsperson (Safety Mate ONLY)
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<b>Qualifications</b>	
<b>Experience</b>	Minimum of 2 weeks relevant experience
<b>Formal Training</b>	JM003 – Safety Mate Training (including LVJ015a (trade test) and LVJ015b (CAG))
<b>On Job Training</b>	On job training under personal supervision as a third person
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	LVJ015a – LV Mechanical Jointing Assessment LVJ015b – LV Jointing Electrical Safety Module
<b>Interview</b>	System Operations Engineer

**NOTE:** This code only allows basic safety mate duties that include:

- To act as a safety person for jointing including cut outs
- Mixing of resin and preparation of shells, connectors and cut outs
- Handling of LPG gas

Please note that where the applicant can demonstrate clearly previous experience acting as a mate in this capacity then there is no requirement for the JM003 course, however they must do the LVJ015a (assessment), LVJ015b (CAG) and Interview to achieve the code in full. Where the applicant has no prior experience (or cannot evidence experience) they need to attend the full course (JM003 with the LVJ015a (assessment), LVJ015b (CAG) included) and then be issued the code under personal supervision for a period of 2 weeks. This 2 week on job experience must include mating on jointing work on a minimum of 3 occasions and must be as part of a 3 person team. After this period of on-job they can then be interviewed for the code in full.

<b>174</b>	Assists in the application / removal of portable earths on dead wood pole lines	
	<b>Qualifications</b>	ENW UA Mod 1 – Basic Electrical and Tree Knowledge and Pruning with Insulated Rods or recognised Certificate of Competence in Utility Arboriculture Basic Electrical Knowledge
	<b>Experience</b>	Competent Person (must hold Code 605 as a minimum) with at least 6 months experience
	<b>Formal Training</b>	OH037 – Electrical Safety on Wood Pole Overhead Line Systems <b>AND</b> OH034 – Working at Height – Wood Pole Rescue
	<b>On Job Training</b>	On job earthing workbook
	<b>Refresher</b>	H200CA - Electrical Competency Accreditation OH034 – Working at Height – Wood Pole Rescue
	<b>Assessment</b>	By Electricity North West Training Academy Trainer
	<b>Interview</b>	System Operations Engineer

**NOTE:** Authorisation for Tree cutting staff who hold Code 605 (previously code 183).

Can apply Circuit Main Earths under the Personal Supervision of AP/SAP.

Can apply Additional Earths under Personal Supervision of PTW holder.



<b>175</b>	Connect generator to dead LV system and synchronise to live LV system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorised Craftsperson (Code 315) with minimum of 3 months experience
<b>Formal Training</b>	CT047a - Generator Training Course
<b>On Job Training</b>	Connect generator under Personal Supervision (5 occasions)
<b>Refresher</b>	CT047b – Generator Refresher Training Course
<b>Assessment</b>	Complete on-job training modules
<b>Interview</b>	System Operations Engineer

176	Maintain substation batteries
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Craftsperson holding FT001 and FT002
<b>Formal Training</b>	FT002 – Maintenance of Battery Systems if not already held.
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Not required if holding Code 213.

Covers subject to training:-

- Inspection and Cleaning
- Battery Maintenance
- Oil sampling
- Spraying of external mechanism
- S/S minor civils

**177** Refurbishment and Upgrade of Long and Crawford 6.6/11kV Oil Filled Switchgear

<b>Qualifications</b>	Evidence of L&C Apprenticeship / Training Scheme OR Electrical City & Guilds – level 2 (or equivalent)
<b>Experience</b>	Electrical Fitting Craft training / experience on L&C Switchgear
<b>Formal Training</b>	FT001/FM001 – Substation Fitting (incl Oil Handling and Testing, Monitoring / Inspection, Earthing and Working at Height) <b>AND</b> FT009 - Refurbishment and upgrade of Long and Crawford 11/6.6 kV Oil Filled Switchgear
<b>On Job Training</b>	On-job training under Personal Supervision of Refurbishment and Upgrade work on T3/T4, J3/J4, GF3 and variants.
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	FT017 – Fitting Trade test FT022 – Electrical Safety – Electrical Fitting CAG
<b>Interview</b>	Systems Operations Engineer / Nominated Engineer

**NOTE:** Must hold Code 202 and 243 (if anticipated they will undertake advance survey work).

Includes:

- Maintenance, Refurbishment, and Upgrade work on the specified L&C equipment.

Also requires Code 195 for receipt/clearance of PTW / LOA

This code is ONLY to be used for existing experienced L&C trained staff.

<b>178</b>	Receive/clear Limitation of Access for work on protection systems on the 33kV network (including associated 11/6.6kV)
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	Engineer with minimum 6 months experience on 33kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	Complete both Commissioning protection testing of 5 installations and Maintenance protection testing of 5 installations under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under the Personal Supervision of the Mentor) Commissioning protection testing of 1 installation and Maintenance protection testing of 1 installation.
<b>Interview</b>	Nominated Engineer

**NOTE:** Allows for authorisation of Engineers, who are not SAP's, for both Commissioning protection testing and Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA Existing holders of Code 180 will NOT be required to complete training or an assessment for Maintenance protection testing.

Training shall include Receipt of 5 LOA's Under Personal Supervision (unless holds code180 or equivalent code covering receipt of Safety Document)

<b>179</b>	Receive/clear Limitation of Access for work on protection systems on the 132kV network (including associated 33kV)
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	Engineer with minimum 6 months experience on 132kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	Complete both Commissioning protection testing of 5 installations and Maintenance protection testing of 5 installations under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under the Personal Supervision of the Mentor) Commissioning protection testing of 1 installation and Maintenance protection testing of 1 installation.
<b>Interview</b>	Nominated Engineer

**NOTE:** Allows for authorisation of Engineers, who are not SAP's, for both Commissioning protection testing and Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

Existing holders of Code 182 will NOT be required to complete training or an assessment for Maintenance protection testing.

Training shall include Receipt of 5 LOA's Under Personal Supervision (unless holds code182 or equivalent code covering receipt of Safety Document)

<b>180</b>	Receive/clear Limitation of Access for Maintenance protection testing <b>ONLY</b> , on the 33kV network (including associated 11/6.6kV)
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	Engineer with minimum 6 months experience on 33kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	Complete Maintenance protection testing of 5 installations under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under the Personal Supervision of the Mentor) Maintenance protection testing of 1 installation.
<b>Interview</b>	Nominated Engineer

**NOTE:** Allows for authorisation of Engineers, who are not SAP's, for **ONLY** Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

The training will **NOT** include for Commissioning protection testing.

Training shall include receipt of 5 LOA's Under Personal Supervision (unless holds code covering receipt of Safety Document).

<b>181</b>	Tree cutting work adjacent to live overhead lines up to 132kV	
	<b>Qualifications</b>	<b>ENWL UA2</b> or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
	<b>Experience</b>	3 months UPS (or previous relevant experience)
	<b>Formal Training</b>	VM011 – Live Line Tree Cutting <b>AND</b> CS38 – Climbing and Rescue <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	<b>Completion of ENWL UA2 work book</b> under personal supervision
	<b>Refresher</b>	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
	<b>Assessment</b>	<b>CAG and ENWL UA2 assessment</b>
	<b>Interview</b>	System Operations Engineer and Vegetation Management Trainer

**NOTE:** Includes wood pole and steel tower lines.

Code No longer Available – Existing holders to retain until migration to new codes.

<b>182</b>	Receive/clear Limitation of Access for Maintenance protection testing <b>ONLY</b> , on the 132kV network (including associated 33kV)
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<b>Qualifications</b>	Electrical HNC (or equivalent)
<b>Experience</b>	Engineer with minimum 6 months experience on 132kV protection
<b>Formal Training</b>	ENG/X47 Introduction to the protection of transmission and distribution system or demonstration of knowledge by interview.
<b>On Job Training</b>	Complete Maintenance protection testing of 5 installations under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under the Personal Supervision of the Mentor) Maintenance protection testing of 1 installation.
<b>Interview</b>	Nominated Engineer

**NOTE:** Allows for authorisation of Engineers, who are not SAP's, for **ONLY** Maintenance protection testing.

SAP to manage appropriate safety precautions at time of issue of LOA.

The training will **NOT** include for Commissioning protection testing.

Training shall include receipt of 5 LOA's Under Personal Supervision (unless holds code covering receipt of Safety Document).



<b>183</b>	Trees cutting work adjacent to dead overhead lines	
	<b>Qualifications</b>	<b>ENWL UA1</b> or NPTC Unit UA1 (VM002) (or equivalent)
	<b>Experience</b>	3 months experience at 184 (or equivalent)
	<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CS38 – Climbing and rescue <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	Under Personal Supervision (to include receipt & clearance of 5 PTW's)
	<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> VM002b – Utility Arb UA1
	<b>Assessment</b>	
	<b>Interview</b>	System Operations Engineer

**NOTE:** All work adjacent to dead HV lines to be done under PTW.

Requires Code 195 for receipt of PTW for tree cutting work adjacent to dead wood pole lines

Code No longer Available – Existing holders to retain until migration to new codes.

<b>184</b>	Tree cutting work adjacent to dead overhead lines (team member)	
	<b>Qualifications</b>	<b>ENWL UA1</b> or NPTC Unit UA1 (VM002) (or equivalent)
	<b>Experience</b>	Previous relevant experience (or 3 months UPS)
	<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CS38 – Climbing and Rescue <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	3 months Under Personal Supervision (if appropriate) <b>and completion of ENWL UA1 work book</b>
	<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> VM002b – Utility Arb UA1
	<b>Assessment</b>	<b>CAG and ENWL UA1 assessment</b>
	<b>Interview</b>	System Operations Engineer and Vegetation Management Trainer

**NOTE:** Tree cutting work adjacent to dead Tower Lines to be carried out under Permit-to-Work issued to Tower Linesperson / Engineer

Code No longer Available – Existing holders to retain until migration to new codes.

<b>185</b>	Application / removal of Additional Earths	
	<b>Qualifications</b>	NPTC Unit UA1 (VM002) (or equivalent)
	<b>Experience</b>	Competent Person holding Code 183 and Code 174 with minimum of 6 months experience
	<b>Formal Training</b>	OH037 - Electrical safety on wood pole overhead systems <b>AND</b> OH034 - O/H Line Rescue Techniques (wood pole)
	<b>On Job Training</b>	Application of Additional Earths on at least 5 occasions under Personal Supervision
	<b>Refresher</b>	H200CA - Electrical Competency Accreditation OH034 - O/H Line Rescue Techniques (wood pole)
	<b>Assessment</b>	By Electricity North West TC Trainer
	<b>Interview</b>	System Operations Engineer

**NOTE:** As recipient of the Safety Document can apply or personally supervise the application and removal of Additional Earths.

Can apply / remove portable Circuit Main Earths under the Personal Supervision of AP/SAP

Code No longer Available – Existing holders to retain until migration to new codes.

186	Visual Inspection only in LV Feeder Pillars & Cabinets.
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<b>Qualifications</b>	
<b>Experience</b>	Substation access and visual inspection with a minimum of 6 months experience
<b>Formal Training</b>	ENG/EO1162 – Inspection and checking of linking arrangements in LV feeder pillars and Cabinets
<b>On Job Training</b>	On – Job training under personal supervision (Minimum 6 months if no electrical background).
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Must hold Code substation access to the appropriate level.

Allows Staff carrying out asbestos Surveys to open LV Feeder Pillars, cabinets and TOC's.

187	Earth security marking on the OH network
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<b>Qualifications</b>	
<b>Experience</b>	Competent person within ENWL
<b>Formal Training</b>	OH 016 Earth security marking on the OH network
<b>On Job Training</b>	On job training shall be completed as part of formal course OH016
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Formal Assessment at the Training Academy
<b>Interview</b>	System Operations Engineer

188	Painting Rigger – Steel Tower Lines Up 132kV
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<b>Qualifications</b>	EUSR BESC Overhead lines or Equivalent
<b>Experience</b>	Existing 161 holder, minimum 6 months <b>OR</b> Contractor with experience of tower painting and competence in rope access works
<b>Formal Training</b>	ED110 Tower Painter <b>AND</b> OH026 - Tower Painter/Rigger - steel tower lines up to 132kV training course <b>AND</b> Certificate in advanced climbing / rope Access (including tower rescue)
<b>On Job Training</b>	
<b>Refresher</b>	H200CA – Electrical Competency Accreditation <b>AND</b> Proof of advanced climbing / rope access (including tower rescue) refresher <b>AND</b> First aid refresher
<b>Assessment</b>	OH036 – Electrical Safety on Steel Tower Overhead Line Systems (Contractor Assessment) <b>AND</b> OH026 - Tower Painter/Rigger - steel tower lines up to 132kV training course <b>AND</b> Formal instructor assessment <b>AND</b> CAG test
<b>Interview</b>	System Operations Engineer / Designated Engineer

**NOTE:** Requires 195 for receipt/clearance of PTW / LOA & 200 for substation access.

<b>189</b>	Carry out Vegetation Surveys for Tree Work in Proximity to ENW Overhead lines upto and including 132kV
<b>Qualifications</b>	NPTC UA 1, NPTC UA2.1, NPTC UA 5.1 and 5.2 (or Equivalent)
<b>Experience</b>	Previous relevant experience or 3 months under 189 P
<b>Formal Training</b>	VM013 - Safe Working Adjacent to Overhead Lines for Tree Contractors and VM011 ENWL Live Line Tree Cutting
<b>On Job Training</b>	5 live line work packs submitted for Authorisation
<b>Refresher</b>	H200CA - Electrical Competency Accreditation plus NPTC refreshers (or equivalent)
<b>Assessment</b>	CAG paper
<b>Interview</b>	System Operations Engineer and TC Trainer

**NOTE:** Code no longer available – Existing holders to retain until migration to new code.

190	Overhead line support team member - wood pole (ground work only)
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<b>Qualifications</b>	
<b>Experience</b>	6 months relevant experience
<b>Formal Training</b>	OH010 – Overhead Line Support Team Member (Wood Pole) Ground Work Only <b>AND</b> OH037 – Electrical Safety on Wood Pole Overhead Line Systems
<b>On Job Training</b>	
<b>Refresher</b>	H200CA – Electrical Competency Assessment
<b>Assessment</b>	Contractor Assessment: OH037 - Electrical Safety on wood pole o/h line systems
<b>Interview</b>	System Operations Engineer

**NOTE:** Ground work support to wood pole Overhead Team only.

Only required to undertake support work as part of the working party (under the Immediate Supervision of the Safety Document holder).

Can include:

- Vehicle / hi-ab operation for erection of plant (replaces Code 149 issued previously)
- Tie on tools and equipment for work at pole top
- Winch operation
- Excavation for earthing etc.

Not required for material delivery etc.



191	Overhead line support team member - steel tower (ground work only)
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<b>Qualifications</b>	
<b>Experience</b>	6 months relevant experience
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	H200CA - Electrical Competency Assessment
<b>Assessment</b>	Contractor Assessment: OH036 - Electrical Safety on steel tower o/h line systems
<b>Interview</b>	System Operations Engineer

**NOTE:** Ground work support to wood pole Overhead Team only.

Only required to undertake support work as part of the working party (under the Immediate Supervision of the Safety Document holder).

Can include:

- Vehicle / hi-ab operation for erection of plant (replaces Code 149 issued previously)
- Tie on tools and equipment for work at pole top
- Winch operation
- Excavation for earthing etc.

Not required for material delivery etc.

<b>192</b>	Patrolling of wood pole lines during emergency conditions
<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	Either CT033a - Storm Damage Recce Training OR for UA arborists VM013 - Safe Working Adjacent to Overhead Lines for Tree Contractors
<b>On Job Training</b>	
<b>Refresher</b>	CT033b - Storm Damage Recce Team CAG assessment – Annual attendance OR for UA arborists Refreshed in line with Utility Arborist codes 601 -609
<b>Assessment</b>	CT033b - Storm Damage Recce Team CAG assessment
<b>Interview</b>	

**NOTE:** Authorisation issued for a period of 12 months from date of training / assessment.

Authorisation renewed annually subject to satisfactory completion of training / assessment.

For Utility Arborists holding codes 601 – 609 there is no requirement to attend CT033a

<b>193</b>	Checking, extracting and updating protection software, settings and records either directly or indirectly through the use of a computer link up to and including 132kV.
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Minimum 6 months operating on protection relays
<b>Formal Training</b>	EA Technology advanced protection course or ETA distance learning protection course or demonstration of knowledge by interview.
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	Nominated Engineer

<b>194</b>	Work on 33kV wood pole lines (dead working)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Contractor with DNO experience and craft training / experience on wood pole lines OR ENWL transmission lines man
<b>Formal Training</b>	OH009 - Wood pole overhead lines – heavy construction <b>AND</b> OH034 – Working at Height – Wood Pole Rescue
<b>On Job Training</b>	Completion of on job training record book for ENWL employees
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> OH034 – Working at Height – Wood Pole Rescue
<b>Assessment</b>	OH009 – Overhead Heavy-Duty Wood Pole Overhead Lines up to 33kV
<b>Interview</b>	System Operations Engineer

**NOTE:** Code for ENWL staff and contractors with insufficient experience of LV, 6.6kV and 11kV overhead construction.

Code 195 required for receipt/clearance of PTW/LOA on 33kV work

Under Code 195 may hold a PTW on 6.6/11kV line for the sole purpose of 33kV oversail work where no work is to be carried out on the 6.6/11kV line

<b>195</b>	Receive/Clear PTW / LOA
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Electrical Craftsperson
<b>Formal Training</b>	
<b>On Job Training</b>	Receipt & Clearance of 5 Safety documents UPS (or previous relevant experience)
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Requires work/activity code.

Course ENW UA Mod 1 is suitable to hold code 195

<b>196</b>	Tree cutting work adjacent to live overhead lines up to 132kV working from ground only	
	<b>Qualifications</b>	<b>ENWL UA2</b> or NPTC units UA2 (unit 2.2 minimum) VM004 or equivalent
	<b>Experience</b>	3 months UPS (or previous relevant experience)
	<b>Formal Training</b>	VM011 – Live Line Tree Cutting <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	Completion of <b>ENWL UA2</b> work book under personal supervision
	<b>Refresher</b>	H200CA Electrical Competency Accreditation VM004-VM005b – Utility Arb UA2.2 & UA2.3
	<b>Assessment</b>	<b>CAG</b> and <b>ENWL UA2</b> assessment
	<b>Interview</b>	System Operations Engineer + Vegetation Management Trainer

**NOTE:** Includes wood pole and steel tower lines

Code no longer available – existing holders to retain until migration to new code

<b>197</b>	Tree cutting work adjacent to dead overhead lines (team member) working from ground only.	
	<b>Qualifications</b>	<b>ENWL UA1</b> or NPTC Unit UA1 (VM002) (or equivalent)
	<b>Experience</b>	Previous relevant experience (or 3 months UPS)
	<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application
	<b>On Job Training</b>	3 months Under Personal Supervision (if appropriate) and completion of <b>ENWL UA1</b> work book
	<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> VM002b – Utility Arb UA1
	<b>Assessment</b>	<b>CAG and ENWL UA1</b> assessment
	<b>Interview</b>	

**NOTE:** Includes wood pole and steel tower lines

198	Install LV monitoring equipment in substations in accordance with CP303
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<b>Qualifications</b>	
<b>Experience</b>	LV Authorised Person (Code 315)
<b>Formal Training</b>	
<b>On Job Training</b>	On-Site training and familiar with requirements of CP303
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** New authorisation (Initially issued to Fault Technicians)



199	Inspection of wood pole lines including conductor height measurement
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<b>Qualifications</b>	
<b>Experience</b>	Formal training and assessment OR Holding code 132
<b>Formal Training</b>	OH030 – Overhead Line Patrolling <b>AND</b> OH031 – Overhead Line Patrolling Camera Only <b>OR</b> Holding code 132
<b>On Job Training</b>	As required
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Formal assessment at the Electricity North West training facility
<b>Interview</b>	System Operations Engineer

**NOTE:** Can include Photographing a pole top using camera mounted on hand-held telescopic device (Voltage up to and including 11kV) in accordance with CP423 Procedure 17-01, Module 864 subject to training.

## Appendix C – Substation Access Authorisation Codes

### C.1 Authorisation Codes 200-299

<b>200</b>	All substations, compounds & buildings
<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	H100 – Basic Electrical Safety (including substations)
<b>On Job Training</b>	Visit under Personal Supervision a minimum of 4 open busbar substations, 3 Primary substations and 3 distribution substations with open LV boards. These <b>Shall</b> be logged on a substation visit log and signed off by their trainer.
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	Systems Operations Engineer / Nominated Engineer

**NOTE:** Add Code 203 to exclude substations with exposed HV conductors (if appropriate)

<b>201</b>	Distribution & Primary substations
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	H100 – Basic Electrical Safety (including substations)
<b>On Job Training</b>	Visit under Personal Supervision a minimum of 3 Primary substations and 3 distribution substations with open LV boards. These <b>Shall</b> be logged on a substation visit log and signed off by their trainer. If open busbar access is required an additional 4 open busbar sites <b>Shall</b> be included.
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	Systems Operations Engineer / Nominated Engineer

**NOTE:** Add Code 203 to exclude substations with exposed HV conductors (if appropriate)

<b>202</b>	Distribution substations only
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	H100 – Basic Electrical Safety (including substations)
<b>On Job Training</b>	Visit under Personal Supervision a minimum of 5 distribution substations 3 of which <b>Shall</b> contain open LV boards. These <b>Shall</b> be logged on a substation visit log and signed off by their trainer.
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	Systems Operations Engineer / Nominated Engineer

	AUTHORISATION	614
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203	Excluding substations with exposed HV conductors
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** Can be included with Code 200 or Code 201 (if appropriate)

 Bringing energy to your door	AUTHORISATION	614
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204	Excluding National Grid interface site
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** Can be included with Code 200 (if appropriate)

<b>205</b>	Access restricted to buildings and established safe walkways on sites with exposed live HV conductors.
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Can be included with Code 200 or Code 201 (if appropriate)

Only the carrying of SMALL hand tools/instruments/equipment is permitted on sites with exposed live HV conductors where access is via the established safe walkway.

The movement of larger objects will require prior consultation with a Senior Authorised Person

206	Work in substations with exposed HV conductors under Safety Standby only
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** All civil trade work in substations with exposed HV conductors to be carried out under issue of a safety document

All excavation work in substations with exposed HV conductors to be carried out under issue of a safety document



<b>207</b>	The following substation(s) <free format field >
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	H100 – Basic Electrical Safety (including substations)
<b>On Job Training</b>	Visit a selection of typical substations under Personal Supervision
<b>Refresher</b>	N/A
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	Systems Operations Engineer

**NOTE:** Code 207 is used for Site Specific Authorisation (see below)

Site specific limited duration substation access authorisations

The following procedure must be followed and requests made to System Operations on a site by site basis.

1. Prior to any works being carried out at whatever voltage, ENWL will request the names and CV's of all staff required to carry out said works.
2. On receipt of said CV's, ENWL SAP and Programme Manager will vet the staff's suitability to operate in a substation environment.
3. A request can then be made to System Operations for 'Site specific limited duration substation access authorisations' (see below) via an application for authorisation submitted to ENWL including evidence of current first aid certificates, photographs and CVs and confirmation of insurance indemnity certificate. (Note: for companies currently on the ENWL data base this will already be in place).
4. ENWL will provide suitably authorised staff to receive an LOA/PTW to lead the working party under immediate supervision.
5. The ENWL SAP will hold a site induction for all staff involved in the works; the inductees will sign on to the induction. The SAP will sign and issue the substation access authorisations and return copy to System Operations for confirmation of issue and updating of the data base.
6. As per normal if the LOA/PTW holder has to leave site for whatever reason, all works must cease and the working party will be stood down and asked to leave site.
7. Under this system, the requirement for contractor staff to undergo ENWL H100 training will be waived.
8. If there are any additions/substitutions to the working party all works will cease until a further induction has taken place and a substation access authorisation has been obtained from System Operations.
9. Authorisation will be issued for a specific period of time, no longer than necessary for completion of work.
10. Keys will not be issued to staff holding this authorisation

Typical Authorisation

Code 207      xxx substation (No xxx) for the purpose of <free format field> under the Immediate Supervision of an ENWL Safety Document holder

<b>209i</b>	Access to substations of the type shown above under the Immediate Supervision of a nominated person for the purpose of craft training only
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<b>Qualifications</b>	Apprentice Craftsperson
<b>Experience</b>	
<b>Formal Training</b>	H100 - Basic Electrical Safety (including substations)
<b>On Job Training</b>	Visit a selection of typical substations under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	Systems Operations Engineer

**NOTE:** New authorisation for issue to Apprentices to allow access to substations for on-job training only

Authorisation is a limitation on access requirements under Code 200 / 201 or 203

<b>210</b>	Delivery and collection of materials and equipment
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200, 201 or 202)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** This is a standalone code, applicable to staff who have no other substation access authorisation.

Code is suitable for Jointers / Linesperson / Craft Attendants etc who may be required to deliver / collect materials, also includes visual inspection of substations.

Code not required for Craftsperson who are LV Authorised Person (u/g)

<b>211</b>	Routine compound cleaning and tidying
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200, 201 or 202)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Authorisation allows for routine compound cleaning and tidying including grass cutting/weeding

Also includes:

- Visual inspection
- Delivery and collection of materials and equipment

Not required for staff holding Code 239

All work to be at ground level

All other work to be the subject of a Safety document

<b>212</b>	Routine maintenance of oil assisted cable equipment
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200) Oil Mechanic holding Code 150
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Allows access to substation for specific task of routine maintenance of oil assisted cable equipment.

Also includes:

- Visual inspection
- Delivery and collection of materials and equipment

All other work to be the subject of a Safety document

<b>213</b>	Routine maintenance of ancillary substation equipment
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<b>Qualifications</b>	Electrical Fitter holding Code 145 or Code 154
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	FT001 – Substation fitting training
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	FT022 – Electrical safety – Electrical fitting
<b>Interview</b>	System Operations Engineer

**NOTE:** Can include, subject to training and experience:

- Substation inspection and cleaning including grass cutting and weeding
- Battery maintenance
- Spraying of switchgear mechanisms
- Taking oil samples and renewing breather crystals
- Clean out line and compressor drains
- Taking load readings and reading HV/LV metering equipment
- Delivery and collection of equipment and materials
- Minor Substation heating and lighting repairs excluding work on tails connected to live LV bus-bars
- May include LV auxiliary fuse removal
- Supervise service by specialist of CO<sub>2</sub> equipment
- Minor civil works including fence repairs
- Battery and Sim card replacement in ground mounted EFI's – subject to attending course FT026

All other work to be the subject of a Safety document

<b>217</b>	Work on telecommunications equipment
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<b>Qualifications</b>	Telemetry Engineer/Technician
<b>Experience</b>	Substation access authorisation (Code 200)
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of On-job training modules relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Can include, subject to training and experience:

- Equipment energised by Class 1, Class 2 and Class 3 lasers as defined by European Standard EN 60825:1991
- Jointing of pilot and telecommunications cables
- Identifying pilot/telephone cables and to supervise Communication Cable Craftsperson whilst opening these cables using LIVE techniques

Also needs Code 102 for receipt of Limitation of Access (if required)



<b>218</b>	Work on telemetry equipment ground level only
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<b>Qualifications</b>	Telemetry Engineer/Technician
<b>Experience</b>	Substation access authorisation (Code 200)
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of On-job training modules relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or Nominated Deputy

**NOTE:** This is for site work but does NOT include any element of switching either to a simulator or to live plant or apparatus – therefore do not include any testing.

Can include, subject to training and experience:

- Work on connections between HAM metering
- Telecontrol/RTU cubicles
- Remote Control/Automation/Telecontrol equipment
- Voltage checks on the secondary side of the supply VT on pole mounted RTUs
- Work on connections between Distribution Automation actuators and RTUs
- Excludes work on connections beyond the Klippon terminals within RTU/Telecontrol Cubicles

Code 106 required for the installation of RTU/Actuator on ground mounted switchgear in accordance with FM9 001 & FM9 002

Code 350 required to undertake switching operations to simulated plant for commissioning purposes

Also needs Code 102 for receipt of Limitation of Access (if required)

<b>219</b>	Work on Telecommunications equipment within a Telemetry enclosure
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<b>Qualifications</b>	Telecommunications Engineer
<b>Experience</b>	Substation access authorisation (Code 200) and code 217
<b>Formal Training</b>	TC007 Telemetry System Awareness
<b>On Job Training</b>	On-job training relevant to activity, minimum 2 installations under personal supervision.
<b>Refresher</b>	
<b>Assessment</b>	Complete without assistance (but under Personal Supervision of mentor) 1 installation
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Includes, subject to training and competence:

- Installation and replacement of hardware including Firewalls, Routers, Switches, Radio (receiver/modem/IDU), & 3G devices.
- Provide connectivity between the Telecommunications hardware and Telemetry system.
- Connection of Telecommunication hardware to the existing 50V DC bus bar within the Telemetry enclosure.
- Drilling Telemetry enclosure to terminate new cables.
- Installation of steel work to mount Telecommunications hardware on, and earth to existing earth bar.
- Modification of existing lightning arrestor systems.
- Alteration of 50V DC power provided to the Telemetry enclosure.

<b>220</b>	Substation Washroom and Toilet cleaning
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200, 201 or 202)
<b>Formal Training</b>	
<b>On Job Training</b>	As required
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Authorisation allows for the specific task of substation Washroom / toilet cleaning.

Any other cleaning in other areas of the substation is to be carried out under code 221.

<b>221</b>	Substation inspection and cleaning and visual inspection of live LV board
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<b>Qualifications</b>	Electrical Fitter / Craft Attendant
<b>Experience</b>	Substation access authorisation (Code 200, 201 or 202)
<b>Formal Training</b>	FT001 – Substation fitting training
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	FT022 – Electrical safety – Electrical fitting
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Authorisation allows for the specific task of substation cleaning including visual inspection of live LV boards.

Also includes:

- Delivery and collection of materials and equipment
- Routine compound cleaning and tidying including grass cutting and weeding.

Authorisation is for staff who have electrical training / experience (ie Fitters / Mates)

All work to be at ground level

All other work to be the subject of a Safety document

<b>223</b>	Routine maintenance on gas assisted cable equipment
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<b>Qualifications</b>	Craftsperson holding Code 152
<b>Experience</b>	Substation access authorisation (Code 200)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Authorisation includes:

- Visual inspection
- Delivery and collection of materials and equipment

All other work to be subject to the receipt of a safety document

<b>226</b>	Work on metering equipment
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<b>Qualifications</b>	Metering Craftsperson
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Can include, subject to training and experience:

- Visual Inspection
- Meter reading
- Removal and replacement of metering potential fuses
- Connecting/removing shorts on metering CT secondary circuits at meter panels only
- Work on metering equipment including multi-core cables/connections.
- Verifying correct metering operation by making load current measurements other than in protection CT secondary circuits
- Taking measurements to verify correct operation of metering installations including carrying out load current measurements in protection CT secondary circuits subject to the requirements of CP341

<b>231</b>	Work on power and lighting circuits
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<b>Qualifications</b>	Electrical Craftsperson - City & Guilds level 2 (or equivalent)
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Excludes work on tails connected to live LV bus-bars

In substations with a live LV board, this must be shrouded before work commences using an **Approved** protective screen positioned by a person authorised to do so

All other work is subject to the receipt of an appropriate Safety Document

<b>237</b>	Painting electrical plant (including receipt of Safety Document)
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<b>Qualifications</b>	Craftsperson Painter
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision including the receipt of 5 Safety Documents
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Painting in accordance with CP306 and subject to receipt of an appropriate Safety Document



239	Specified minor civil trade work
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<b>Qualifications</b>	Civil Tradesman / Mate
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Duties include, subject to training and experience:

- Visual inspection
- Delivery and collection of materials
- Site survey and physical measurements
- External painting and the painting of internal access doors and ventilation louvers
- External joinery repairs and the joinery repair of internal access doors and ventilation louvers
- External roof repairs not involving activities which could affect the inside of the substation
- External down spout repairs
- Fence and gate repairs not involving excavation
- Repairs to external brickwork not affecting the inside of the substation
- Painting work associated with the above repairs
- Stoning/Paving remove & relay (without excavation)
- Compound tidying and rubbish removal
- Routine hedge trimming / gardening
- Pump out cable trench
- Clean contaminated oil spills- Erect / dismantle scaffolding (Scafftag **approved** personnel only)

In substations with live LV boards this must be shrouded, if appropriate, before work commences using an **Approved** protective screen positioned by a person authorised to do so.

All work involving excavation requires Code 249 and **SHALL** be carried out under receipt of a LOA

All work in sites with exposed HV conductors to be carried subject to receipt of LOA and Safety Standby (see CP606 G2).

<b>241</b>	Operation and Connection of Transformer Oil Regeneration Unit to Grid and Primary Transformers
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200, 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	
<b>Assessment</b>	On site assessment of Training supervisor
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Work always done under an LOA

<b>242</b>	Visual inspection only
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200, 201 or 202)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** This is a standalone code only applicable to staff who have no other substation access authorisation.

Excludes all work activities

Code suitable for managers / supervisors who only visit substations on an ad hoc basis

<b>243</b>	Site surveys / measurements
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training as required
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Includes taking physical measurements

Pre-vetting work

Also include taking readings not requiring direct connection of equipment

<b>245</b>	Electrical Measurements
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	Relevant electrical background/experience
<b>On Job Training</b>	
<b>Refresher</b>	On-job training relevant to activity
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Can include the following (subject to training and experience);

- Direct connection to LV
- Clip on ammeters / squirrels

Requires the wearing of PPE as appropriate

<b>246</b>	Asbestos sampling and remedial work
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<b>Qualifications</b>	Asbestos in air sampling (Specialist Service)
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	CC011a - Working with asbestos
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	CC011c - Asbestos Awareness (Awareness Only)
<b>Assessment</b>	By Workplace Environment Solutions Ltd or other nominated assessor.
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Inspection and taking samples of suspect materials for asbestos analysis

249	Excavation in substations under issue of Limitation of Access
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<b>Qualifications</b>	
<b>Experience</b>	Relevant substation access authorisation <b>AND</b> Training and a minimum of 3 months relevant experience
<b>Formal Training</b>	NRSWA 003 – NRSWA for Operatives
<b>On Job Training</b>	If not attended NRSWA course then on-job training on the interpretation of Standard Mains Records and use of Cable Avoidance Tool (CAT)
<b>Refresher</b>	NRSWA RF01 – NRSWA refresher training course for operatives
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Also requires Code 206 if authorised for substations with exposed HV conductors

Person in charge of team requires Code 102 for receipt of Limitation of Access

In addition Safety Standby required for all excavation work in substations with exposed HV conductors

Not required if holding Fitting / Jointing craftsperson code

<b>252</b>	Specialised Vegetation Control
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<b>Qualifications</b>	NPTC Arborist and/or training and qualifications in the application of weed killer
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Specialist authorisation for staff specifically trained in vegetation control

Also includes site clearance & rubbish removal

(Use Code 211 for routine compound cleaning)

Also requires Code 206 if holding Substation Access Code 200



<b>253</b>	Specialised Pest Control Services
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<b>Qualifications</b>	Formal qualifications in the use of pest control applications
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Specialist authorisation for staff specifically trained in pest & vermin control

Also includes site clearance & rubbish removal

(Use Code 211 for routine compound cleaning)

254	Earth tape security marking
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<b>Qualifications</b>	
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	Training course CT048 – Metal marking
<b>On Job Training</b>	On-job training relevant to activity
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Authorisation for Signature Materials staff trained in earth tape security marking

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255	

**NOTE:** Code no longer available

<b>256</b>	Vegetation Control in exposed HV conductor compounds
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<b>Qualifications</b>	Training appropriate to equipment being used
<b>Experience</b>	Substation access authorisation (Code 200) Held Code 252 for a minimum of 6 months
<b>Formal Training</b>	SM12– Vegetation Control in Exposed HV Conductor Compounds
<b>On Job Training</b>	Evidence of work in exposed HV conductor site (under LOA & either Safety Standby or existing 256 holder) on at least 3 occasions
<b>Refresher</b>	
<b>Assessment</b>	Nominated 132kV SAP
<b>Interview</b>	System Operations / Nominated Engineer

**NOTE:** Specialist authorisation for staff specifically trained in vegetation control

Allows for specified work in sites with exposed HV conductor, under issue of Limitation of Access, without the need for Safety Stand-by

Code 102 required.

<b>257</b>	Dismantling and removal of electrical equipment
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<b>Qualifications</b>	
<b>Experience</b>	Relevant experience of working in substations
<b>Formal Training</b>	H100 – Basic Electrical Safety (including substations)
<b>On Job Training</b>	Familiarisation visits to substations following H100
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	Successful completion of CA
<b>Interview</b>	System Operations Engineer

**NOTE:** Equipment to include switchboards / open bus-bars / support structures etc

Dismantling of equipment previously connected to the system to be carried out under issue of LOA

(Code 102 required for receipt of LOA)

Code 200 & Code 206 also required for work in substations with exposed HV conductors

<b>278</b>	Shroud live LV board in indoor substations	
	<b>Qualifications</b>	Competent Person with s/s access
	<b>Experience</b>	Substation access authorisation (Code 202)
	<b>Formal Training</b>	Minimum 6 months experience of regular work in distribution substations
	<b>On Job Training</b>	On-job training under Personal Supervision shrouding 5 different LV boards
	<b>Refresher</b>	
	<b>Assessment</b>	Electricity North West Competent Person or nominated person holding code 278 in full for 6 months
	<b>Interview</b>	On-job by assessor

**NOTE:** Authorisation not required for staff that hold LV Authorisation (u/g)

<b>279</b>	PRESense Installation within LV Boards/Cabinets subject to on job training relevant to activity
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<b>Qualifications</b>	Minimum Electrical City & Guild - level 2 (or equivalent)
<b>Experience</b>	Substation access authorisation (Code 200 or 201) & Electrical Measurements (Code 245)
<b>Formal Training</b>	N/A
<b>On Job Training</b>	On-job training relevant to activity, minimum six installations under personal supervision on open LV board in an indoor substation and six installations under personal supervision in LV cabinet indoor/outdoor.
<b>Refresher</b>	N/A
<b>Assessment</b>	Complete without assistance (but under Personal Supervision of mentor) one installation on open LV board and one installation in LV cabinet.
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Duties include, subject to training and experience:

Install PRESense units to open style LV boards

Install PRESense units to LV cabinets

i.e if you have only been trained and assessed on open boards then you can only fit the PRESense unit to open boards.

- Direct connection to LV Busbar with fused LV plugin clamp.
- Drilling in distribution substation wall for mounting of the PRESense unit bracket.
- Inserting a spare LV dummy fuse carrier into a spare LV way to pick up voltage reference.
- Clip on ammeters.
- Phase rotation testing.

<b>280</b>	Springfield fuels limited – At Salwick no.3 and no.20 substations, to act as an authorised person on ENWL 11kV T13 and T14 CBs (open / close in normal service and carry out isolation) to the specific instructions of the ENWL Control Engineer
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<b>Qualifications</b>	
<b>Experience</b>	AP/SAP on the customer network – regular operating practice
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer



<b>281</b>	Manchester Airport site - ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
------------	--

<b>Qualifications</b>	
<b>Experience</b>	Customer authorised person for the duties specified above
<b>Formal Training</b>	H100
<b>On Job Training</b>	
<b>Refresher</b>	H100
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

<b>282</b>	Manchester Royal Infirmary - ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
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<b>Qualifications</b>	
<b>Experience</b>	Customer authorised person for the duties specified above
<b>Formal Training</b>	H100
<b>On Job Training</b>	
<b>Refresher</b>	H100
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

<b>283</b>	TFM Hillhouse site (Aardvark) – Access to Thornton BSP s/s for the purposes of operating TFM owned 33kV switchgear only
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<b>Qualifications</b>	
<b>Experience</b>	Customer authorised person for the duties specified above
<b>Formal Training</b>	H100
<b>On Job Training</b>	
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

<b>284</b>	Trafford General and Withington Community Hospitals- ENWL control and operated substations, access for visual inspection, fire alarm testing, LV network and heating and lighting, and embedded generation.
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<b>Qualifications</b>	
<b>Experience</b>	Customer authorised person for the duties specified above
<b>Formal Training</b>	H100
<b>On Job Training</b>	
<b>Refresher</b>	H100
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Codes 285 – 299 to be reserved for future Customer appointed persons codes.

<b>285</b>	Access to Sellafield 132kV GIS 609378 & 609379 (Building B928) and AGR 609377 including their associated Open Busbar Compounds for carrying out remote operation of Sellafield owned 11kV Switchgear, under Electricity North West control, associated with GT's 2,3,9,10, 11 & 12
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<b>Qualifications</b>	
<b>Experience</b>	Customer authorised person for the duties specified above
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

## Appendix D – Operational Authorisation Codes

### D.1 Authorisation Codes 300-599

<b>300</b>	Limited Senior Authorised Person – Limited to issuing/cancelling LOAs for plant maintenance up to 11kV
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<b>Qualifications</b>	Electrical Fitting Craftsperson
<b>Experience</b>	2 years maintenance fitting
<b>Formal Training</b>	ENG/EO1134 Introductory Course for Limited Senior Authorisation (Fitter) <b>Followed by:</b> on-job training <b>Finally:</b> ENG/EO1135 Limited SAP Fitters
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer

#### NOTE:

Code 300:- Allows for the closing of open points on the system and opening and isolation of the unit to be maintained. Switching to be done to a planned switching programme.

<b>301</b>	Limited Senior Authorised Person - Limited to plant maintenance up to 11kV
------------	--

<b>Qualifications</b>	Electrical Fitting Craftsperson OR HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	HV AP Code 353 & LSAP Code 300 for minimum 6 months (for fitters) OR Minimum of 6 months regular operating practice holding HV AP Code 441
<b>Formal Training</b>	ENG/EO1134 Introductory Course for Limited Senior Authorisation (Fitter) Followed by : on-job training Finally: ENG/EO1135 Limited SAP Fitters OR ENG/EO300 System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision appropriate to option one or two above
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer

**NOTE:**

If entering under Qualification 1 then follow 1st Option throughout route to authorisation.

If entering under Qualification 2 then follow 2nd Option throughout route to authorisation.

Includes issue/cancellation of LOA, PTW & SFT

<b>302</b>	Limited Senior Authorised Person - Limited to issuing/cancelling LOAs for plant maintenance on the 33kV system (includes the 11/6.6kV bus-section and transformer circuit breakers)
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<b>Qualifications</b>	Electrical Fitting Craftsperson
<b>Experience</b>	2 years maintenance fitting experience
<b>Formal Training</b>	ENG/EO1134 - Limited SAP Fitting Introduction <b>Followed by:</b> on-job training <b>Finally:</b> ENG/EO1137 - Limited SAP Fitting 33kV
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer




<b>303</b>	Limited Senior Authorised Person - Limited to Plant Maintenance on the 33kV system (includes the 11/6.6kV bus-section and transformer circuit breakers)
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<b>Qualifications</b>	Electrical Fitting Craftsperson
<b>Experience</b>	33kV AP & LSAP Code 302 for minimum 6 months
<b>Formal Training</b>	ENG/EO1134 - Limited SAP Fitting Introduction <b>Followed by:</b> on-job training <b>Finally:</b> ENG/EO1137 - Limited SAP Fitting 33kV
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes issue/cancellation of LOA / PTW & SFT

<b>304</b>	Extension of authorisation under emergency conditions
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<b>Qualifications</b>	Authorised previously by another DNO
<b>Experience</b>	With own employer
<b>Formal Training</b>	With own employer
<b>On Job Training</b>	With own employer
<b>Refresher</b>	With own employer
<b>Assessment</b>	Production of current authorisation
<b>Interview</b>	Systems Operations Engineer or nominated Engineers for emergency conditions. See Appendix I and CP604

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305	
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** Now Code 415

305 available for use

<b>306</b>	Field Control Engineer on the 33kV system and associated lower voltage limited to prearranged work
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<b>Qualifications</b>	SAP at 33kV
<b>Experience</b>	Minimum of 6 months experience as practising 33kV SAP
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires 33kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

<b>307</b>	Field Control Engineer limited for plant maintenance up to 11kV
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<b>Qualifications</b>	Fitting craftsperson holding Limited SAP Code 301
<b>Experience</b>	Minimum 6 months experience as practising LSAP
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires LSAP Authorisation Code 301

SAP Code to be added to existing holders

<b>308</b>	Field Control Engineer on the 132kV system and associated lower voltage limited to prearranged work
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<b>Qualifications</b>	132kV SAP
<b>Experience</b>	Minimum of 6 months experience as practising 132kV SAP
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires 132kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

<b>309</b>	Authorised Person on systems up to 11kV (pre-arranged work only)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of both codes 318 and 321 or code 315 <b>OR</b> Contractors engineer with DNO experience at 11/6.6kV Minimum 6 months of regular operating practice in all cases.
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>310</b>	Senior Authorised Person on systems up to 11kV (pre-arranged work only)
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum of 6 months operating practice as 11kV AP
<b>Formal Training</b>	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer



<b>311</b>	Field Control Engineer limited to overhead lines up to 11kV (pre-arranged work only)
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<b>Qualifications</b>	Craftsperson overhead lines holding Limited SAP codes 395 or 397
<b>Experience</b>	Minimum 6 months experience as practising LSAP
<b>Formal Training</b>	ENG/EO1161 – Field Control Limited Senior Authorisation Overhead
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires LSAP Authorisation Code 397.

SAP Code to be added to existing holders on Authorisation renewal

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312	

**NOTE:** No longer available

313	
Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

<b>314</b>	Authorised Person to replace LV fuses and/or attach LV fault restoration devices	
	<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
	<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience
	<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
	<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
	<b>Refresher</b>	ENG/EO341 - System Operations LV Refresher
	<b>Assessment</b>	
	<b>Interview</b>	System Operations Engineer

**NOTE:** Includes planned and fault situations in Substations, feeder Pillars and Link Boxes.  
Includes fault restoration devices ie Rezap Faultmaster, Modular Rezap, Bidoyng, Fusemate

<b>315</b>	Authorised Person to carry out LV operations
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience and substation access at the appropriate level
<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO341 - System Operations LV Refresher
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>316</b>	Authorised Person to carry out Low Voltage (LV) Telecontrol switching ONLY to the instructions of an LV Authorised Person
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice with the Network Management System (NMS)
<b>Formal Training</b>	ENG/EO343 – System Operations LV <b>OR</b> EO344 – Remote LV Network Management Operations via Telecontrol
<b>On Job Training</b>	Witness successful completion of a minimum of 6 on site Commissioning procedures of Smart Street systems <b>AND</b> Successful completion of 6 Approved switching programmes to instruction in the HUB
<b>Refresher</b>	ENG/E341 – System operations LV refresher
<b>Assessment</b>	Control room Manager or Nominated Deputy
<b>Interview</b>	System Operations Engineer

**NOTE:** Code is designed for LV Network Management Tech to switch from the centre to instruction. To remove the need to Switch to instruction – full LV AP code 315 shall be obtained as laid out in CP614

<b>317</b>	Authorised Person to remove/replace LV fuses and post Caution Notice, test dead and apply LV portable earths and post Caution Notice on the LV overhead system only (pre-arranged work only) for the purposes of planned tree clearance work.
------------	---

<b>Qualifications</b>	NONE
<b>Experience</b>	Minimum of 12 months experience holding code 603 and Minimum of 12 months experience holding code 606, 607, 608 or 609 and has received/cleared PTW on 10 occasions
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors VM0011 – Live Line Tree Cutting (ED1112) OH039 – LV Overhead Isolation and Application of Temporary LV Earths – for Arborists Only (course includes OH034 Rescue a casualty from height – wood pole) OH027 - Pole and MEWP rescue course CT022 – Use and rescue from Ladder course
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	EO341 - System Operations LV Refresher at 3 yearly intervals PL024d - MEWP refresher CT022 - Safe working with Ladders OH034 - Working at Height - Pole Top Rescue
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer

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**Commented [AC1]:** For clarity, could an Authorisation Route for Arborists please be added to the appendices

<b>318</b>	Authorised Person to carry out LV operations on the overhead system (pre-arranged work only)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience
<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	No refresher required if this is only operational code held
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer



<b>319</b>	Authorised Person to carry out LV operations on the overhead system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience
<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	No refresher required if this is only operational code held
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>320</b>	Authorised Person to carry out LV operations on the underground system
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience and substation access at the appropriate level
<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO341 - System Operations LV Refresher
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>321</b>	Authorised Person to carry out LV operations on the underground system (pre-arranged work only)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electrical Craftsperson or Electrical Engineer with a minimum of 12 months experience and substation access at the appropriate level
<b>Formal Training</b>	ENG/EO343 - System Operations LV See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO341 - System Operations LV Refresher
<b>Assessment</b>	Evidence to be assessed by System Operations Engineer
<b>Interview</b>	System Operations Engineer

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322	

**NOTE:** No longer available

<b>323</b>	Authorised Person as Driver for HV live line pole erection
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<b>Qualifications</b>	Attendance on following CPCS Training courses: ENWL PL006a – 180° Wheeled Excavator
<b>Experience</b>	Minimum 12 months experience
<b>Formal Training</b>	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
<b>On Job Training</b>	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
<b>Interview</b>	

**NOTE:** Work in accordance with CP423 Sections 1 & 2

<b>324</b>	Authorised Person to carry out 11kV Live Line Rubber Glove Work
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<b>Qualifications</b>	Overhead line craftsperson
<b>Experience</b>	Minimum 12 months experience Code 132
<b>Formal Training</b>	OH006a - 11kV Live Line RGW Techniques
<b>On Job Training</b>	Two weeks assessment of on-job training by appointed assessors
<b>Refresher</b>	OH006a - 11kV live line RGW techniques refresher
<b>Assessment</b>	On site assessment by a Electricity North West appointed assessor (eg overhead line training instructor)
<b>Interview</b>	

**NOTE:** Work in accordance with CP423 Section 4 modules

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325	

**NOTE:** Code withdrawn

<b>326</b>	Authorised Person to operate pole mounted and switchgear mounted auxiliary switches controlling auto reclose facilities and post Caution Notices
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<b>Qualifications</b>	Overhead line craftsperson
<b>Experience</b>	Substation access for the type of substation required HV Authorisation to operate HV pole mounted switchgear Minimum of 6 months of regular operating practice at HV
<b>Formal Training</b>	
<b>On Job Training</b>	Type specific on job training in the operation of pole mounted and switchgear mounted auxiliary switches controlling auto re-close facilities prior to commencement of switching operations from relevant sites.
<b>Refresher</b>	
<b>Assessment</b>	On site assessment by a Electricity North West appointed assessor
<b>Interview</b>	System Operations Engineer



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327	

**NOTE:** Code withdrawn

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328	
<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Code withdrawn

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329	

**NOTE:** Code withdrawn

<b>330</b>	Authorised Person to operate HV pole mounted switchgear and to post/remove Caution Notices
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV AP overhead authorisation and a minimum of 6 months of regular operating practice
<b>Formal Training</b>	ENG/ED355 - Operation of Overhead Line Switchgear
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Includes, subject to training and experience, operation of the following:

- pole mounted DOEF's & links
- air break switches
- auto-reclosers
- auto-sectionalisers

<b>331</b>	Authorised Person (for Fault Restoration switching only)* at 11/6.6kV only, to operate HV pole mounted DOEF's links, air break switches, auto-reclosers and auto-sectionalisers to the instructions of the Control Engineer (excludes posting of Caution Notices)
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<b>Qualifications</b>	Competent Person
<b>Experience</b>	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience
<b>Formal Training</b>	ENG/ED355 – Operation of OH Line Switchgear <b>OR</b> ENG/EO1155 - HV Switching (Service Electricians)
<b>On Job Training</b>	Completion of ED355/EO1155 on-job training modules under personal supervision (10 operations minimum on a variety of overhead apparatus)
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Initial assessment by HV Authorised Person then on site/training academy assessments every 6 months for infrequent operators
<b>Interview</b>	System Operations Engineer

**NOTE:** \* Delete "for Fault Restoration Switching only" when code issued under Personal Supervision to enable training on planned work.

When code issued in full must include "for Fault Restoration switching only"

<b>332</b>	Authorised Person to supervise the movement of ladders and long objects, in substations with exposed conductors, to the instructions of a Senior Authorised Person
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<b>Qualifications</b>	Electricity North West electrical fitting craft training
<b>Experience</b>	Minimum 3 years experience in exposed HV conductor sites
<b>Formal Training</b>	FT023 - Duties of Safety Standby Personnel
<b>On Job Training</b>	Local training and practice under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	On site assessment by nominated G&P SAP
<b>Interview</b>	System Operations Engineer / Nominated G&P Engineer

<b>333</b>	Code No Longer Available Authorised to carry out live line pole erection
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<b>Qualifications</b>	Overhead craftsman
<b>Experience</b>	Minimum 12 months experience Code 132
<b>Formal Training</b>	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
<b>On Job Training</b>	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
<b>Interview</b>	

**NOTE:** Code no longer available – Existing holders migrated to code 335.

<b>334</b>	Authorised Person to supervise the movement of cranes and scaffolds, in substations with exposed conductors, as defined by and to the instructions of a Senior Authorised Person
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<b>Qualifications</b>	Electricity North West electrical fitting craft training
<b>Experience</b>	Minimum 3 years experience in exposed HV conductor sites
<b>Formal Training</b>	FT023 - Duties of Safety Standby Personnel
<b>On Job Training</b>	Local training and practice under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	On site assessment by nominated G&P SAP
<b>Interview</b>	System Operations Engineer / Nominated G&P Engineer



<b>335</b>	Authorised Person to act as Dedicated Observer for the purpose of live line pole erection
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<b>Qualifications</b>	Overhead craftsman
<b>Experience</b>	Minimum 12 months experience Code 132
<b>Formal Training</b>	OH041 - HV Live Line Working - Pole Erection and Pole Top Inspection
<b>On Job Training</b>	HV live line pole erection in accordance with CP 423 Section 2 modules <-> under Personal Supervision.
<b>Refresher</b>	
<b>Assessment</b>	On site assessment by an Electricity North West appointed assessor (eg overhead line training instructor)
<b>Interview</b>	

**NOTE:** Work in accordance with CP423 Sections 1 & 2

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336	
Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** Code withdrawn

<b>337</b>	Limited Senior Authorised Person - Limited to issuing/cancelling LOAs for protection work on systems up to 33kV/132kV*
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Engineering Trainee
<b>Formal Training</b>	ENG/EO300 – System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	Systems Operations Engineer

**NOTE:** \* Delete as appropriate.

<b>338</b>	Field Control Engineer limited to issuing/cancelling LOAs for protection work on systems up to 33kV/132kV*
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<b>Qualifications</b>	Previously held code 337 for minimum of 6 months
<b>Experience</b>	SAP Engineering
<b>Formal Training</b>	ENG/EO300 – System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	Systems Operations Engineer

**NOTE:** Also requires SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

<b>339</b>	Authorised Person to issue/cancel Limitation of Access for excavation and cable laying work only in distribution substations
------------	--

<b>Qualifications</b>	Technical Supervisor (LV AP) / Project Engineer (HNC)
<b>Experience</b>	LV Authorised (code 315) for 6 months minimum <b>AND / OR</b> Relevant project management experience
<b>Formal Training</b>	
<b>On Job Training</b>	Issue / cancel LOA on 5 occasions under personal supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Project Engineer must have electrical HNC (or equivalent) and relevant project management experience.

Technical Supervisors require full LV AP authorisation (Code 315)


340	Authorised Person to operate ground mounted switchgear at 11/6.6kV
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<b>Qualifications</b>	G&P SAP's who do not have LV authorisation <b>OR</b> CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice at 33kV or 132kV <b>OR</b> Minimum 6 months of regular operating practice holding code 320 (LV AP U/G Planned and Fault)
<b>Formal Training</b>	ENG/EO345 - System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	Systems Operations Engineer

**NOTE:**

If entering under **Qualification 1** then follow **1st Option** throughout route to authorisation.

If entering under **Qualification 2** then follow **2nd Option** throughout route to authorisation.

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341	
<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Code withdrawn

<b>342</b>	Authorised Person to carry out Telecontrol Database Management tasks at Telecontrol control centres subject to the approval of the Control Engineer
------------	---

<b>Qualifications</b>	Electricity North West electrical engineering training
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	Under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or Nominated Deputy

**NOTE:** Covers desk based database management tasks. It therefore does not require first aid or substation access.

There is no switching allowed under this code.



<b>343</b>	Authorised Person to carry out 11/6.6kV operations on the Telecontrol equipment to the instructions of the Control Engineer
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<b>Qualifications</b>	HV Authorisation at 11/6.6kV
<b>Experience</b>	Minimum 6 months of regular operating practice
<b>Formal Training</b>	
<b>On Job Training</b>	Minimum of 10 switching programmes under Personal Supervision Telecontrol Keyboard Skills on-job
<b>Refresher</b>	
<b>Assessment</b>	Control Room Manager or nominated deputy
<b>Interview</b>	System Operations Engineer or Nominated Deputy

<b>344</b>	Authorised Person to switch 'off' and 'on' SEF and AR protection and allow disable/enable protection supply on Polarr relays connected to GVRs and to carry out test operations on Telecontrol equipment at outstations to the instructions of the Control Engineer.
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<b>Qualifications</b>	Telemetry Engineer/Technician
<b>Experience</b>	Held codes 218 and 162 both for a minimum of 6 months
<b>Formal Training</b>	
<b>On Job Training</b>	Complete 10 operations under Personal Supervision
<b>Refresher</b>	N/A
<b>Assessment</b>	Telemetry Support Manager
<b>Interview</b>	System Operations Engineer

**NOTE:** All operations to be done to the instruction of the **Control Engineer**.

Includes replacement of batteries on Polarr relays.

Includes disconnection and reconnection of actuator mechanical linkages when necessary.

345	Authorised Person to issue/cancel LOA on Telecoms/Telecontrol equipment
-----	---

<b>Qualifications</b>	Telemetry / Telecoms Engineer
<b>Experience</b>	12 months experience of relevant work
<b>Formal Training</b>	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
<b>On Job Training</b>	Issue/cancel LOA under Personal Supervision on at least 5 occasions
<b>Refresher</b>	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Issue LOA's for Telecoms equipment.

Can, subject to training and experience, include:

- Pilot/telecom cable identification (including signal injection)
- Issue of LOA for jointing pilot/telecoms cables following identification.
- Issue of LOA for installation, splicing and maintenance of fibre optic cables.
- Removal of whitely box isolation links or patch links
- Isolation of fibre optic links

All subject to the approval of the **Control Engineer** when necessary

Does not allow for issue of LOA's in sites with exposed HV conductors (LOA to be issued by a suitably authorised SAP)

346	
Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: Code Withdrawn

<b>347</b>	Authorised Person to carry out local/remote switching for the sole purpose of testing and commissioning telecontrol outstations to actuators not connected to the system.
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<b>Qualifications</b>	Electricity North West Engineer/Technician + relevant substation access authorisation.
<b>Experience</b>	N/A
<b>Formal Training</b>	
<b>On Job Training</b>	Under personal supervision – site surveys and demonstrations by existing code holders Complete 10 secondary test/commissioning schemes on different types of switchgear under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	The trainee to complete a full test/commissioning scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
<b>Interview</b>	System Operations Engineer or Nominated Deputy

**NOTE:** Allows for limited switching on the network to an actuator physically disconnected from plant. Can be for either staff working in the centre or in the field and therefore it is not a requirement to hold first aid or substation access. However if staff are field based they **MUST** have first aid and the appropriate sub access codes.

The switching to the simulated plant is with the approval of the **Control engineer** but NOT to the instruction of the **Control engineer**.

<b>348</b>	Authorised Person at <-> substation to operate ENW' <-> kV <-> switch to the specific instructions of Electricity North West Control Engineer
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<b>Qualifications</b>	Written declaration from employer to confirm employee's training and experience satisfies Electricity at Work Regulations
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	Operation of specified switchgear
<b>Refresher</b>	
<b>Assessment</b>	On site by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

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349	

**NOTE:** Code Withdrawn

<b>350</b>	<p>Authorised Person to carry out work on telecontrol centres and outstation equipment subject to the approval of the Control Engineer</p> <p>To carry out switching operations to simulated plant at substation sites with all Telecontrol Klippon links to all primary plant isolated</p>
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<b>Qualifications</b>	Electricity North West Engineer/Technician + relevant substation access authorisation.
<b>Experience</b>	N/A
<b>Formal Training</b>	
<b>On Job Training</b>	Complete 10 Primary and 10 secondary test/commissioning installations Under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	The trainee to complete a full installation scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
<b>Interview</b>	System Operations Engineer or Nominated Deputy

**NOTE:** Allows for limited switching on the network to a simulator box. Can be for either staff working in the centre or in the field and therefore it is not a requirement to hold first aid or substation access. However if staff are field based they **MUST** have first aid and the appropriate sub access codes. If work is above the ACD then pole top rescue is required.

The switching to the simulated plant is with the approval of the **Control engineer** but NOT to the instruction of the **Control engineer**.

Does not allow for switching with the actuator disconnected from the switchgear – Code 347 required for this.



<b>351</b>	Authorised Person to issue/cancel Limitation of Access for Civil Works only (excluding sites with exposed HV conductors)
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<b>Qualifications</b>	Civil Trades Supervisor
<b>Experience</b>	12 months experience of relevant work activity
<b>Formal Training</b>	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
<b>On Job Training</b>	Issue/cancel LOA under Personal Supervision on at least 5 occasions
<b>Refresher</b>	ENG/EO1160 - System Operations for Civil & Telecoms Staff (Issue of LOA)
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Issue of LOA is for Civil Trades work only and does not include for the issue of LOA's for cable laying in s/s compounds (this requires Code 339 or SAP authorisation).

<b>352</b>	Senior Authorised Person on the 33kV and associated lower voltage system
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice (33kV AP)
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>353</b>	Authorised Person to operate on systems up to 11/6.6kV
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	LV Authorisation <b>OR</b> Contractors electrical engineer with DNO experience at 11/6.6kV Minimum 6 months of regular operating practice for either
<b>Formal Training</b>	ENG/EO345 - System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>354</b>	Authorised Person to receive/clear a SFT on the 11/6.6kV system for testing purposes only and excludes work permitted under the SFT allowed by Explanatory Note No. 26
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<b>Qualifications</b>	HV Authorisation
<b>Experience</b>	Minimum 6 months of regular operating practice
<b>Formal Training</b>	
<b>On Job Training</b>	SFT receipt, testing and clearance carried out under Personal Supervision on at least 10 occasions
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>355</b>	Authorised Person to receive/clear a Sanction for Test on the 33/132kV system for testing purposes only and excludes work permitted under the SFT allowed by Explanatory Note No. 26
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<b>Qualifications</b>	HV Authorisation
<b>Experience</b>	Minimum 6 months of regular operating practice
<b>Formal Training</b>	
<b>On Job Training</b>	SFT receipt, testing and clearance carried out under Personal Supervision on at least 10 occasions
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

356	Senior Authorised Person on systems up to 11/6.6kV
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice (11kV AP) <b>OR</b> SAP with other DNO Authorisation
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>357</b>	Senior Authorised Person on the 132kV and associated lower voltage system
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice (132kV AP)
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation <b>OR</b> ENG/EO347 if already SAP at lower voltage. See Appendix E7 for authorisation of Contractors SAP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

358	Senior Authorised Person and Control Engineer on systems up to 11/6.6kV including telecontrol operation
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**Option 1 – Field Staff**

<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	SAP/FCE at 11/6.6kV with minimum of 12 months of regular operating practice
<b>Formal Training</b>	
<b>On Job Training</b>	Minimum of 10 days of daytime duty under Personal Supervision Minimum of 20 days of daytime duty under Immediate Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or nominated deputy.

**Option 2 – Network Management Hub Staff**

<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	
<b>Formal Training</b>	ENG/EO345 - System Operations and Control <b>THEN</b> ENG/EO300 - System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Minimum 10 days on job (Control) under Personal Supervision <b>AND</b> 10 days on-job (Field) as Authorised Person under Personal Supervision, for field appreciation <b>THEN</b> (following EO300 course) Minimum 20 working days on job (Control) under Immediate Supervision <b>AND</b> 10 days on-job (Field) as Senior Authorised Person under Personal Supervision for field appreciation
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or nominated deputy.



<b>359</b>	Authorised Person to fit bird flight diverters to live 11/6.6kV overhead lines in accordance with CP423 Section 1, Procedure 08/20 to live 11/6.6kV overhead lines from ground level.
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<b>Qualifications</b>	
<b>Experience</b>	Minimum 12 months experience as overhead linesperson Code 132
<b>Formal Training</b>	Modular training
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	Assessment by a Electricity North West appointed assessor eg Electricity North West TC overhead line training staff
<b>Interview</b>	

**NOTE:** This is for work from ground level. Code 399 refers to application from the pole.

<b>360</b>	Field Control Engineer on systems up to 11/6.6kV
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<b>Qualifications</b>	Senior Authorisation at 11/6.6kV with Field Control on pre-arranged work (Code 361)
<b>Experience</b>	Minimum of 6 months of regular operating practice as an 11kV SAP and FCE limited to pre-arranged work
<b>Formal Training</b>	Previously completed for Senior Authorisation
<b>On Job Training</b>	Completion of a minimum of 10 Field Control switching programmes for pre-arranged work
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires 11/6.6kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

361	Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only)
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<b>Qualifications</b>	Senior Authorisation at 11/6.6kV
<b>Experience</b>	Minimum 6 months of regular operating practice as SAP before starting on-job training module
<b>Formal Training</b>	Previously completed for Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires 11/6.6kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal

<b>362</b>	Authorised Person to operate on the 33kV and associated lower voltage system
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<b>Qualifications</b>	Electricity North West electrical craft/engineering training <b>OR</b> Contractors electrical engineer with DNO experience at 33kV
<b>Experience</b>	
<b>Formal Training</b>	ENG/EO347 - 33/132kV System Operations and Control (or EO346) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>363</b>	Authorised Person to operate on systems up to 33kV
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<b>Qualifications</b>	Minimum Authorised Person up to 11/6.6kV <b>OR</b> Contractors electrical engineer with DNO experience at 33kV
<b>Experience</b>	Minimum 6 months of regular operating practice at previous level
<b>Formal Training</b>	ENG/EO347 - 33/132kV System Operations and Control (or EO346) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

NB: Code no longer available – existing holders to retain until migrated to new codes

<b>364</b>	Authorised Person to operate on the 11/6.6kV system, to a planned switching programme, for moving open points for the sole purpose of testing and commissioning telecontrol outstations
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<b>Qualifications</b>	Substation access authorisation Hold Code 347 for a minimum of 6 months
<b>Experience</b>	At least 12 months in electrical fitting/engineering and/or database management.
<b>Formal Training</b>	ENG/EO345 – System Ops and Control (for Telecoms staff)
<b>On Job Training</b>	Completion of on-job modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer plus CAG Assessment
<b>Interview</b>	System Operations Engineer

**NOTE:** Excludes the application of Safety Locks and the Posting of Caution & **Danger** Notices

<b>365</b>	Senior Authorised Person and Control Engineer on the 33kV systems and associated lower voltages, including telecontrol operation
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Must hold code 358
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation ENG/EO347 - 33/132kV System Operations & Control
<b>On Job Training</b>	Minimum 10 working days on-job (Control) under Personal Supervision <b>AND</b> On-job (Field) as Authorised Person under Personal Supervision, for field appreciation as determined by the Electricity Control Manager Minimum 20 working days on-job (Control) under Immediate Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer or nominated deputy.

<b>366</b>	Senior Authorised Person on systems up to 33kV
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice (11kV & 33kV AP)
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

NB: Code no longer available – existing holders to retain until migrated to new codes



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<b>367</b>	Senior Authorised Person and Control Engineer on the 132kV systems and associated lower voltages, including telecontrol operation
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Must hold codes 358 and 365
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation ENG/EO347 - 33/132kV System Operations & Control
<b>On Job Training</b>	Minimum 10 working days on job (Control) under Personal Supervision <b>AND</b> On-job (Field) as Senior Authorised Person under Personal Supervision, for field appreciation as determined by the Electricity Control Manager Minimum 3 months on-job (Control) under Immediate Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	System Operations for non Electricity North West staff
<b>Interview</b>	System Operations Engineer or nominated deputy.

<b>368</b>	Authorised Person to issue/cancel Limitation of Access for vegetation control only in sites with exposed HV Conductors
------------	--

<b>Qualifications</b>	Technical Supervisor / Project Engineer
<b>Experience</b>	Electrical background with relevant experience of working in sites with exposed HV Conductors (Code 200) for at least 1 year
<b>Formal Training</b>	SM12 – Vegetation Control in Exposed HV Conductor Compounds
<b>On Job Training</b>	Issue/cancel LOA on 3 occasions under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Staff to identify safe Working and Access Clearances and issue LOA for vegetation control work only

<b>369</b>	Field Control Engineer on the 33kV system
------------	---

<b>Qualifications</b>	Senior Authorisation at 33kV
<b>Experience</b>	Minimum of 6 months experience
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires SAP Authorisation Code 352 or Code 366

SAP Code to be added to existing holders on Authorisation renewal

<b>370</b>	Senior Authorised Person and Field Control Engineer on systems up to 33kV
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** No longer available, use 306 or 369 – existing holders keep authorisation

371		
	Qualifications	
	Experience	
	Formal Training	
	On Job Training	
	Refresher	
	Assessment	
	Interview	

**NOTE:** No longer available

<b>372</b>	Authorised Person to operate on the 132kV and associated lower voltage system
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<b>Qualifications</b>	
<b>Experience</b>	Electricity North West electrical craft/engineering training <b>OR</b> Contractors electrical engineer with DNO experience at 132kV
<b>Formal Training</b>	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>373</b>	Authorised Person to operate on systems up to 132kV
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<b>Qualifications</b>	
<b>Experience</b>	Minimum Authorised Person up to 33kV <b>OR</b> Contractors electrical engineer with DNO experience up to 132kV Minimum 6 months of regular operating practice
<b>Formal Training</b>	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

NB: Code no longer available – existing holders to retain until migrated to new codes



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374	

**NOTE:** No longer available

<b>375</b>	Limited Senior Authorised Person and Class Control Engineer for Class Operations
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 12 months as an 11/6.6kV control engineer (Code 358)
<b>Formal Training</b>	
<b>On Job Training</b>	Minimum of 6 (Class Transformer) outages under Personal supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	Electricity Control Manager or Nominated Deputy

**NOTE:** Allows for 11kV **control engineer** to carry out limited 33kV switching for the purposes of class operations.

Includes:-

- Making dead and isolation of 33kV transformer feeders via 33kV circuit breakers and 11/6.6kV CBs, may include inter-connectors if teed.
- Making taps non-auto/ auto and adjusting as required
- Dressing 33kV transformer feeder circuit breakers as **isolated**
- Endorse and approve CLASS switching programmes

<b>376</b>	Senior Authorised Person on systems up to 132kV
------------	---

<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	HV authorisation up to 132kV <b>OR</b> SAP on systems up to 33kV <b>OR</b> Contractors electrical engineer with DNO experience on systems up to 132kV Minimum 6 months of regular operating practice
<b>Formal Training</b>	ENG/EO347 - 33/132kV System Operations and Control (HV) See Appendix E7 for authorisation of Contractors AP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

NB: Code no longer available – existing holders to retain until migrated to new codes

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<b>377</b>	Authorised Person at 33kV and associated lower voltage system limited to CLASS AVC Replacement Work. Authorised to work to a Planned Switching Programme (with all circuit breaker open/close operations carried out by the Control Engineer) and issue/cancel LOA's for CLASS replacement work
------------	---

<b>Qualifications</b>	Either SAP at 11kV (internal/external) or 33kV SAP (external) <b>OR</b> Protection Commissioning Engineer (HNC) and LOA receiver
<b>Experience</b>	11kV or 33kV SAP for 6 months minimum <b>OR</b> relevant Protection/AVC Commissioning experience with codes 102 & 166 held for 6 months minimum
<b>Formal Training</b>	
<b>On Job Training</b>	Complete a minimum of 3 x CLASS/AVC Replacement schemes under personal supervision. Complete 1 x CLASS/AVC replacement scheme as an assessment under personal supervision All Training Elements listed in the notes below to be covered to the satisfaction of the On Job Mentor
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	The trainee to complete a full CLASS/AVC replacement scheme without assistance under the supervision and to the satisfaction of the On Job Mentor.
<b>Interview</b>	An interview to be undertaken by a member of the CLASS team other than the On Job Mentor The Interviewer to be <b>approved</b> by System Operations

See notes on next page.

**NOTE:** It is proposed to be a single authorisation code but with different entry routes to achieving the code. One for existing 11kV or external 33kV SAPs and the other route for experienced Protection Commissioning Engineers (as assessed by On Job Mentor)

**It is proposed that the Authorised person under this code should complete the following training elements:**

- Write 33kV switching programs - To open/close Primary transformer 33kV and 11kV CBs ONLY BY TELECONTROL (NO ISOLATION)
- Operate to switching program in co-ordination with Control
- CP606 S30 Pre-Outage checks
- Tap Transformer and control AVC scheme (If not already authorised to do so)
- Isolate VT and disable Closing
- Shorting the LDC CT
- Isolate tap change LV supplies,
- Identify and confirm AC & DC wiring to be worked on and that remaining in service, make dead or apply tape and/or shroud as appropriate
- Isolate telecontrol alarms/controls via links,
- Make alarm supplies dead
- Apply **Danger** and Caution Tape as appropriate
- Issue LOA
- Use of Safety Lock and Lock Boxes

<b>378</b>	Senior Authorised Person on the 132kV and associated lower voltage Transformer breakers limited to Substation Plant only
------------	--

<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Previous SAP up to 400kV for Substations with National Grid
<b>Formal Training</b>	ENG/EO416 System operations SAP Conversion Course
<b>On Job Training</b>	Completion of a specific on job training programme agreed with System Operations/The Academy covering use of switching programmes and operation of Grid Transformer associated equipment.
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG test and evidence asses by 132kV SAP
<b>Interview</b>	Academy Nominated Person

**NOTE:** Any LSAP who are required to convert to AP or full SAP are required to follow the formal training as set out in various codes




<b>379</b>	Field Control Engineer on the 132kV system
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<b>Qualifications</b>	Senior Authorisation at 132kV
<b>Experience</b>	Minimum of 6 months of regular operating practice as 132kV SAP
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires 132kV SAP Authorisation.

SAP Code to be added to existing holders on Authorisation renewal.

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380	Senior Authorised Person and Field Control Engineer on systems up to 132kV.
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Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

**NOTE:** No longer available – existing holders to retain


Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

<b>383</b>	Authorised to issue/cancel LOA for work on 33kV gas cable feeding systems
------------	---

<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months regular operating practice at 33kV AP Understanding of the operation of the 33kV cable gas systems
<b>Formal Training</b>	Trained on procedures for work on gas assisted networks
<b>On Job Training</b>	Issue of 3 LoAs under PS
<b>Refresher</b>	ENG/EO310 System Operations Refresher (course only)
<b>Assessment</b>	Transmission plant engineer SAP
<b>Interview</b>	System Ops or Nominated Engineer

**NOTE:** Allows for AP to issue LoAs for the specified work.

<b>384</b>	Authorised Person to carry out Live Tank Oil Sampling (LTOS)
------------	--

<b>Qualifications</b>	11/6.6kV Authorised Person
<b>Experience</b>	Minimum 12 months regular operating practice as 11/6.6kV AP
<b>Formal Training</b>	None
<b>On Job Training</b>	Carry out 2 samples on site with current code 384 holder
<b>Refresher</b>	None
<b>Assessment</b>	None
<b>Interview</b>	None

**NOTE:** Sampling in accordance with CP606 Procedure S43

<b>385</b>	For Ferranti Engineers to work on Ferranti Tapchangers only on Grid and Primary Transformers
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<b>Qualifications</b>	Minimum Electrical City & Guild - level 2 (or equivalent)
<b>Experience</b>	Demonstrate experience of working on all variants of Ferranti tapchangers on Grid and Primary Transformers. Hold substation access at the appropriate level
<b>Formal Training</b>	1st aid training
<b>On Job Training</b>	On-job training under Personal Supervision of Refurbishment /replacement work on Ferranti tap changers.
<b>Refresher</b>	H200CA – Electrical Competency Accreditation
<b>Assessment</b>	Transmission plant engineer
<b>Interview</b>	System Ops or Nominated Engineer

**NOTE:** Must hold Code substation access to the appropriate level.

Includes:

- Maintenance, Refurbishment, Replacement work on the specified Ferranti equipment.

Also requires Code 195 for receipt of PTW / LOA.

This code is ONLY to be used for existing experienced Ferranti trained staff.

Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	



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387	
<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** No longer available

388	
Qualifications	
Experience	
Formal Training	
On Job Training	
Refresher	
Assessment	
Interview	

NOTE: No longer available

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389	

**NOTE:** No longer available

390	Authorising Engineer
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<b>Qualifications</b>	Electrical Engineer
<b>Experience</b>	Minimum of 2 years relevant experience Must hold ENWL AP / SAP Authorisation
<b>Formal Training</b>	
<b>On Job Training</b>	Conduct interviews under supervision of Authorising Engineer
<b>Refresher</b>	As required to retain Operational Authorisation
<b>Assessment</b>	
<b>Interview</b>	Designated Engineer or Nominated Deputy

**NOTE:** Can carry out authorisation interviews, in accordance with CP614, up to and including the level of authorisation held

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391	

**NOTE:** Code withdrawn – Existing holder to retain

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392	

**NOTE:** No longer available

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393	

**NOTE:** No longer available

<b>394</b>	Authorised Person (for Fault Restoration Switching only)* at 11/6.6kV, limited to opening/closing switches and circuit breakers, to the instructions of the Control Engineer (excludes posting of Caution Notices)
------------	--

<b>Qualifications</b>	Electrical craftsperson holding codes 315, or 315 & 396
<b>Experience</b>	6 months regular operating practice under code 315
<b>Formal Training</b>	ENG/EO1155 - HV Switching (Service Electricians)
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** \* Delete “for Fault Restoration Switching only” when code issued under **Personal Supervision** to enable training on planned work.

When code issued in full must include “for Fault Restoration Switching only” excludes posting of Caution Notice.



<b>395</b>	Senior Authorised Person up to and including 11kV, limited to overhead lines, including operating ground mounted switchgear
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<b>Qualifications</b>	
<b>Experience</b>	
<b>Formal Training</b>	
<b>On Job Training</b>	
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	

**NOTE:** Authorisation code no longer available – existing holders retain.

Now need Code 353 for operation of ground mounted switchgear (and need to attend the EO345)

396	Limited Authorised Person - Fault Restoration Switching only at 11/6.6kV limited to opening/closing switches (excludes circuit breakers and overhead switches), under the instructions of the Control Engineer (excludes posting Caution Notices and application of Safety Locks) excludes field control
-----	--

<b>Qualifications</b>	Competent Person
<b>Experience</b>	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience <b>AND</b> Hold Substation access code 201 minimum
<b>Formal Training</b>	ENG/EO345 – System Operations and Control <b>OR</b> ENG/EO1156 (HV switching only) <b>OR</b> ENG/EO1155 – HV switching (Fault Technician)
<b>On Job Training</b>	Completion of EO1156 or EO345/EO1155 on-job training modules under personal supervision (10 operations minimum on a variety of switches)
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Initial assessment by HV Authorised Person then on site/training academy assessments every 6 months for infrequent operators <b>AND</b> CAG
<b>Interview</b>	System Operations Engineer

397	Senior Authorised Person up to and including 11kV, limited to overhead lines, excluding operating ground mounted switchgear
-----	---

Qualifications	Overhead lines craftsperson OR HNC in Electrical Engineering (or equivalent)
Experience	Minimum of 6 months regular operating practice HV AP to operate pole mounted switchgear (Code 330)
Formal Training	ENG/EO1129 Introductory course for LSAP linesperson FOLLOWED BY modular on-job training, FINALLY ENG/EO1130 Linesperson LSAP OR ENG/EO300 System Operations Prior to Senior Authorisation (for holders of code 330) OR None required if already holder of code 445
On Job Training	Completion of on-job training modules under Personal Supervision
Refresher	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
Assessment	
Interview	System Operations Engineer

**NOTE:**

If entering under Qualification 1 then follow 1st Option throughout route to authorisation.

If entering under Qualification 2 then follow 2nd Option throughout route to authorisation.

Includes issue/cancellation of LOA, PTW & SFT

<b>398</b>	Authorised Person to carry out Red Band Working in accordance with CP606 Procedure A12
------------	--

<b>Qualifications</b>	Electricity North West craft training
<b>Experience</b>	Minimum 12 months experience as overhead linesperson
<b>Formal Training</b>	Modular training
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	Assessment by Electricity North West Training Centre appointed assessor
<b>Interview</b>	

<b>399</b>	Authorised Person to fit Fault Passage Indicators to live 11/6.6kV overhead lines in accordance with CP423 Section 1, Procedure 8/27
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<b>Qualifications</b>	Electricity North West craft training or equivalent
<b>Experience</b>	Minimum 12 months experience as overhead linesperson (Code 132)
<b>Formal Training</b>	OH015 – Fault Passage Indicator Training
<b>On Job Training</b>	
<b>Refresher</b>	
<b>Assessment</b>	Assessment by ENWTC appointed assessor
<b>Interview</b>	

**NOTE:** All fitting of Fault Passage Indicators from a pole requires operators to hold code 399.

Holders of Authorisation code 324 may fit Fault Passage Indicators using Rubber Glove Working from an IAD under their 324 code.

405	CNS 66kV Cable Jointing
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Electricity North West HV Joints / Contractor 66kV Joints Minimum of 6 months of relevant jointing experience
<b>Formal Training</b>	66kV Manufacturers Jointing training
<b>On Job Training</b>	On job training under Personal Supervision
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	ED860AT Electrical Competency Accreditation
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires Code 195 for receipt of PTW / LOA

Includes jointing on all 66kV cables (including Gas / Oil assisted cables) subject to training and experience.

<b>407</b>	CNS Field Control Engineer on systems up to 11kV (Limited to pre-arranged work only) (ground mounted switchgear only)
------------	---

<b>Qualifications</b>	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only) Code 410
<b>Experience</b>	Minimum 6 months of regular operating practice as CNS LSAP before starting on-job training module
<b>Formal Training</b>	Previously completed for Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

**NOTE:** Also requires LSAP Authorisation - code 410 on Authorisation

Code only for CNS engineers to work on COMA networks.

408	CNS Authorised Person to work on Customers private LV Network (pre-arranged work only)
-----	--

<b>Qualifications</b>	LV Authorisation <b>OR</b> CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of 2 years electrical contracting experience OR approved technical apprenticeship scheme <b>AND</b> Hold ENWL Substation access code 202 (Distribution Substations)
<b>Formal Training</b>	
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	Practical Assessment on site by CNS manager
<b>Interview</b>	System Operations Engineer

**NOTE:** Code for CNS engineers to work on Customers private LV Network (pre-arranged work only).

The Network Shall be under a COMA agreement.



409	CNS Limited Authorised Person on systems at 6.6/11kV (pre-arranged work only)(ground mounted switchgear only)
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<b>Qualifications</b>	LV Authorisation <b>OR</b> CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent) <b>OR</b> Contractors engineer with DNO experience at 11/6.6kV
<b>Experience</b>	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience <b>AND</b> Hold Substation access code 201 minimum
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Code for CNS engineers to work on COMA networks only.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching.

**Code no longer available**

<b>410</b>	CNS Limited Senior Authorised Person on systems at 6.6/11kV (pre-arranged work only) (ground mounted switchgear only)
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Hold s/s access Minimum of 6 months operating practice as AP or higher. See Appendix E8 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
<b>Formal Training</b>	HNC must be held in full prior to undertaking:- ENG/EO345 System Operations & Control (HV) <b>AND/OR</b> (dependent on experience and authorisation) ENG/EO300 System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Code only for CNS engineers to work on COMA networks.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching

<b>411</b>	ENECML Limited Authorised Person on the South Tees Network up to 66kV (pre-arranged work only)
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<b>Qualifications</b>	LV Authorisation <b>OR</b> CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent) <b>OR</b> Contractors engineer with DNO experience at 11/6.6kV
<b>Experience</b>	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience <b>AND</b> Hold Substation access code 201 minimum
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV) See Appendix E8 for Authorisation of CAP
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Code for CNS engineers working for ENECML to work on South Tees Network only.

<b>412</b>	ENECML Limited Senior Authorised Person on the South Tees Network up to 66kV (pre-arranged work only)
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum of 6 months operating practice as either 11kV AP or code 411 holder
<b>Formal Training</b>	ENG/EO300 System Operations Prior to Senior Authorisation See Appendix E8 for authorisation of Contractors SAP Evidence to be assessed by System Operations Engineer
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) AND ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:** Code for CNS engineers working for ENECML to work on South Tees Network only.

<b>415</b>	Limited Senior Authorised Person - Limited to plant maintenance up to 11kV on COMA networks having only one HV point of supply.
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<b>Qualifications</b>	Electrical Fitting craftsman authorised to receive safety documents
<b>Experience</b>	Minimum 2 years as craftsman on substation type work
<b>Formal Training</b>	ENG/EO1139 – Fitters Limited Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer

**NOTE:** (Previous code 305)

Includes issue of LOA / PTW & SFT

Includes switching on Electricity North West equipment to release the COMA plant for work, Isolation of incoming supply and VT

(Excludes work in exposed LV and HV conductor sites and systems with LV interconnection or Electricity North West LV network connections)

<b>416</b>	LSAP limited to plant maintenance up to 11kV on COMA customers plant but excluding work in exposed LV and HV conductor sites and systems with LV interconnection or ENW LV network connections. Includes planned switching on ground mounted Electricity North West equipment to release the COMA plant for work.
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<b>Qualifications</b>	Electrical Fitting craftsman authorised to receive safety documents
<b>Experience</b>	LSAP Code 415 for minimum 6 months
<b>Formal Training</b>	ENG/EO1136 - Fitters Limited Senior Authorisation (ENWLCML)
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	On-job mentor
<b>Interview</b>	System Operations Engineer

**NOTE:**

Includes issue of LOA / PTW & SFT

1. LV authorisation not required
2. On job workbook to include switching on ENWL HV network

<b>419</b>	CNS Limited Authorised Person on systems at 6.6/11kV (ground mounted switchgear only)
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<b>Qualifications</b>	LV Authorisation <b>OR</b> City and Guilds level 2 (or equivalent) <b>OR</b> Contractors engineer with DNO experience at 11/6.6kV
<b>Experience</b>	Electrical Planning/Design, Craft or Fault Technician background with a minimum of 6 months experience <b>AND</b> Hold Substation access code 201 minimum
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV) See Appendix E7 for Authorisation of CAP
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:**

Code for CNS engineers to work on COMA networks only. Includes Control directed switching.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching.

**Code no longer available**

<b>420</b>	CNS Limited Senior Authorised Person on systems at 6.6/11kV (ground mounted switchgear only)
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum of 6 months operating practice as Code 410 holder
<b>Formal Training</b>	No additional formal training having already attended ENG/EO300 System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of relevant on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	CAG
<b>Interview</b>	System Operations Engineer

**NOTE:**

Code for CNS engineers to work on COMA networks only. Includes Control directed switching.

No LV switching/work on either ENWL or Customer networks allowed.

Includes switching on ENWL network to release COMA sites for work but excludes any OH switching



<b>440</b>	Authorised Person to operate pole mounted switchgear at 11/6.6kV (pre-arranged work only)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of 6 months operating practice holding code 318 (LV AP O/H planned)
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV)
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>441</b>	Authorised Person to operate ground mounted switchgear at 11/6.6kV (pre-arranged work only)
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<b>Qualifications</b>	CG002 - City & Guilds Level 2 Diploma in Electrical Power Engineering 2339 training course (or equivalent)
<b>Experience</b>	Minimum of 6 months operating practice holding code 321 (LV AP U/G planned)
<b>Formal Training</b>	ENG/EO345 System Operations & Control (HV)
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>445</b>	Senior Authorised Person at 6.6/11kV, limited to overhead lines (pre-arranged work only), excluding operating ground mounted switchgear
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum of 6 months regular operating practice holding Code 440 (HV AP O/H Planned)
<b>Formal Training</b>	ENG/EO300 System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>446</b>	Senior Authorised Person at 6.6/11kV, limited to ground mounted switchgear and underground cables (pre-arranged work only)
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum of 6 months regular operating practice holding Code 441 (HV AP U/G Planned)
<b>Formal Training</b>	ENG/EO300 System Operations Prior to Senior Authorisation
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer

<b>448</b>	Senior Authorised Person at 11/6.6kV, limited to ground mounted switchgear and underground cables
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<b>Qualifications</b>	HNC in Electrical Engineering (or equivalent)
<b>Experience</b>	Minimum 6 months of regular operating practice holding Code 340 (full HV AP ground mounted switchgear) <b>OR</b> SAP with other DNO Authorisation
<b>Formal Training</b>	ENG/EO300 - System Operations Prior to Senior Authorisation See Appendix E7 for authorisation of Contractors SAP
<b>On Job Training</b>	Completion of on-job training modules under Personal Supervision
<b>Refresher</b>	ENG/EO310 - System Operations (Refresher) <b>AND</b> ENG/EO310a – System Operations (Refresher) CAG Paper
<b>Assessment</b>	Evidence to be assessed by Systems Operations Engineer
<b>Interview</b>	System Operations Engineer

<b>501</b>	Contractor only - Tree cutting work adjacent to dead Overhead Lines up to 11kV under Supervision of an ENWL Safety Document holder OR an ENWL LV competent Person
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<b>Qualifications</b>	Must hold Tree Cutting competencies
<b>Experience</b>	Previous relevant Tree Cutting experience (12 months)
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application
<b>On Job Training</b>	12 months Arborist experience assessed by Vegetation management trainer <b>OR</b> 5 Jobs completed to the satisfaction of the Site Supervisor and signed off.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> Annual on job assessment
<b>Assessment</b>	On site assessment by training mentor/supervisor
<b>Interview</b>	Vegetation Management Trainer

**NOTE:**

This code mirrors Code 184 for contractors without the Utility Arb Unit training.

Also allows for ground level work without climbing eg Brash clearance.

All work under a Safety Document held by suitably authorised team leader.

Refresher is via CAG and annual on site assessment.

<b>502</b>	Contactor Only – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent
<b>Experience</b>	Previous relevant Tree Cutting experience (3 months) (as Labourer for example)
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	n/a
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher training or CPD evidence every 3 yrs
<b>Assessment</b>	184 CAG assessment
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.

<b>503</b>	Contractor Only – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Ground based felling and pruning.
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher or CPD evidence every 3 yrs <b>AND</b> NPTC / Lantra refresher training at the higher level held or CPD evidence (5 yrs)
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.
- Code 195 required for issue of safety documents.



<b>504</b>	Contractor Only – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from MEWP in line with competency / qualifications held
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. Recognised MEWP qualification.
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher or CPD evidence every 3 yrs <b>AND</b> MEWP refresher <b>AND</b> Any competencies / qualification held
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.
- Code 195 required for issue of safety documents.

505	Contractor Only – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from Rope and Harness (Climbing Ops)
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) and NPTC CS 38 39 (0039-22 and 0039-23) or Lantra Equivalent
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher or CPD evidence every 3 yrs <b>AND</b> NPTC / Lantra refresher training at the higher level held or CPD evidence including aerial rescue and aerial cutting (5 yrs)
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.
- Code 195 required for issue of safety documents.

<b>506</b>	Contactor Only – Tree Cutting adjacent <b>LIVE</b> Overhead Lines up to 33kV with Insulated rods
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent.
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher or CPD evidence every 3 yrs
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.

<b>507</b>	Contractor Only – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 132kV - Ground based felling and pruning
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. NPTC UA Assisted Tree Felling 0038-34 or Lantra Equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refresher or CPD evidence every 3 yrs <b>AND</b> NPTC / Lantra refresher training at the higher level held or CPD evidence (5 yrs)
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.

<b>508</b>	Contractor Only – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 11kV – Aerial cutting from MEWP
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. Recognised MEWP qualification.
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refreshers or CPD evidence every 3 yrs <b>AND</b> MEWP (5 yrs)
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.

509	Contractor Only – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (climbing Ops)
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<b>Qualifications</b>	NPTC UA Basic Electrical Knowledge 0038-30 or Lantra Equivalent. NPTC UA Tree Species Recognition 0038-31 or Lantra Equivalent. NPTC UA Ground based Pruning 0038-32 or Lantra equivalent. NPTC CS 30 31 (0039-20 and 0039-21) or Lantra Equivalent. NPTC UA Aerial Pruning 0038-33. NPTC CS 38 39 (0039-22 and 0039-23) or Lantra Equivalent.
<b>Experience</b>	3 months previous relevant Utility Arborist Tree Cutting experience and authorisation within another DNO.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Assessment of previous 3 months experience.
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refreshers or CPD evidence every 3 yrs <b>AND</b> NPTC / Lantra refresher training at the higher level held or CPD evidence including Aerial Rescue, Aerial Cutting (5 yrs)
<b>Assessment</b>	On site assessment Academy Assessor or nominated Vegetation Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer / Vegetation Management

**NOTE:**

- 1<sup>st</sup> Aid to include either +F or Celox is mandatory.
- All Qualifications must be held as stated in quals section.
- All codes requiring CS quals must be refreshed at the higher CS qualification level or CPD evidenced for skill set to be used.

<b>515</b>	Routine maintenance, repair and resetting of Sump Alarms
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<b>Qualifications</b>	Electrical Craftsperson - City & Guilds level 2 (or equivalent)
<b>Experience</b>	Substation access authorisation (Code 200 or 201)
<b>Formal Training</b>	
<b>On Job Training</b>	On-job training under Personal Supervision
<b>Refresher</b>	
<b>Assessment</b>	
<b>Interview</b>	System Operations Engineer / Nominated Engineer

**NOTE:** Includes, subject to training and experience:

- Sump pump Isolation from a distribution board
- Sump pump Isolation from and access to a Marshalling kiosk (X56 key)
- Sump pump maintenance
- Sump pump fault repair
- Sump pump Alarms resetting

Excludes work on tails connected to live LV busbars

<b>519</b>	Replacement of single phase all insulated cut-outs only (live working) including looped cut outs
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<b>Qualifications</b>	Electrical City & Guilds level 2 (or equivalent)
<b>Experience</b>	Electrical craftsman holding Code 119 for a minimum of 6 months
<b>Formal Training</b>	LVJ014 - REPLACEMENT OF INSULATED SINGLE PHASE CUT OUTS - LIVE WORKING - PLASTIC CUT-OUTS ONLY - ENWS ONLY (LVJ05)
<b>On Job Training</b>	On-job training under Personal Supervision with a minimum of 6 looped cut-outs changed (3 PVC/PVC, 3 PILC/PILC)
<b>Refresher</b>	H200CA Electrical Competency Accreditation
<b>Assessment</b>	On job Assessment
<b>Interview</b>	System Operations Engineer

**NOTE:**

Requirement to assess hazards associated with suspect single phase terminations and decide on live or dead working.

Understanding the risks associated with looped cut outs and testing required.

Code issued Electrical Craftsmen or Electricians specifically trained for cut-out change work only

Interview to determine understanding of risk assessments and requirements of live working. Must understand there is always the option to carry out work dead by authorised jointers.



<b>525</b>	Installation & commissioning of Linesight overhead line equipment only (Dead work)
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<b>Qualifications</b>	City & Guilds Level 2 or Equivalent
<b>Experience</b>	3 months previous relevant experience and authorisation within another DNO.
<b>Formal Training</b>	CT022 - LARS training for use of ladders OH034 - Working at height/wood pole rescue
<b>On Job Training</b>	Assessment of previous experience
<b>Refresher</b>	6 monthly on-site assessment
<b>Assessment</b>	Pre-interview CAG paper. On site assessment by nominated Management Assessor. Assessment on site via audit at 1 week and 1 month from passing authorisation interview.
<b>Interview</b>	System Operations Engineer

**NOTE:**

- 1<sup>st</sup> Aid qualification is mandatory.
- Code 195 required for issue of safety documents.
- Includes fitting / removal of Overhead line CME's

530	Use of a sniffer device for the location of LV underground faults.
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<b>Qualifications</b>	
<b>Experience</b>	Competent Person for 3 months
<b>Formal Training</b>	NRSWA 003 for ENW Operatives or SW1 – street works qualification for contractors
<b>On Job Training</b>	A minimum of 5 completed sniff jobs in separate locations under Personal Supervision – Demonstrating a full understanding of the use of the cable sniffing device. The final job to be completed as an assessment under Personal Supervision to the satisfaction of the on job trainer.
<b>Refresher</b>	NRSWA RF01 – NRSWA refresher training course for operatives
<b>Assessment</b>	The trainee to complete a full sniff location without assistance under the Personal Supervision and to the satisfaction of the On Job Trainer.
<b>Interview</b>	System Operations Engineer

<b>601</b>	Utility Arborist – Ground Worker to assist competent person in Tree Cutting tidy up operations adjacent to ENWL overhead network
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<b>Qualifications</b>	<b>ENW UA Mod 1 – Basic Electrical and Tree Knowledge</b> or a recognised Certificate of Competence in Utility Arboriculture Basic Electrical Knowledge.
<b>Experience</b>	None (new recruit)
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	n/a
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 1 Recert / Audit every 2yrs
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:**

- Chainsaw cross cutting (only if qualification held - no felling)
- Chipping if qualification held

<b>602</b>	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Ground based pruning.
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<b>Qualifications</b>	<b>ENW UA Mod 1 – Basic Electrical and Tree Knowledge and Pruning with Insulated Rods</b> or a recognised Certificate of Competence in Utility Arboriculture, Basic Electrical Knowledge, Tree Species Recognition and Hazard evaluation and Ground Based Pruning
<b>Experience</b>	Personal Supervision for on Job Training <b>or</b> 3 months previous relevant Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 1 on Job Work Book
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 1 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:**

Team member only – may not hold code 195

<b>603</b>	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from MEWP
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<b>Qualifications</b>	<b>ENW UA Mod 1 – Basic Electrical and Tree Knowledge and Pruning with Insulated Rods</b> or a recognised Certificate of Competence in Utility Arboriculture, Basic Electrical Knowledge, Tree Species Recognition and Hazard evaluation and Ground Based Pruning. Recognised MEWP qualification.
<b>Experience</b>	Must hold code 602 in full Personal Supervision for on Job Training <b>or</b> 3 months previous relevant Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 1 on Job Work Book (incl working from MEWP)
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 1 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> Recognised MEWP refresher
<b>Assessment</b>	CAG Assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:**

Team member only – may not hold code 195

<b>604</b>	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Ground based Felling Operation
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<b>Qualifications</b>	<b>ENW UA Mod 1 – Basic Electrical and Tree Knowledge and Pruning with Insulated Rods</b> or a recognised Certificate of Competence in Utility Arboriculture, Basic Electrical Knowledge, Tree Species Recognition and Hazard evaluation and Ground Based Pruning. <b>AND</b> a recognised Certificate of Competence in Tree Felling.
<b>Experience</b>	Personal Supervision for on Job Training <b>or</b> 3 months previous relevant Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 1 on Job Work Book (inc felling ops)
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 1 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> Recognised Chainsaw and Felling Refresher or CPD evidence
<b>Assessment</b>	CAG Assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:**

- All work adjacent to dead HV lines to be done under PTW.
- Requires Code 195 for receipt of PTW for tree cutting work adjacent to dead overhead lines
- PTW is NOT to include Tower work or 132kV woodpole lines

605	Utility Arborist – Tree Cutting adjacent to <b>DEAD</b> overhead lines. Aerial cutting from Rope and Harness (Climbing Ops)
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<b>Qualifications</b>	<b>ENW UA Mod 1 – Basic Electrical and Tree Knowledge and Pruning with Insulated Rods</b> or a recognised Certificate of Competence in Utility Arboriculture, Basic Electrical Knowledge, Tree Species Recognition and Hazard evaluation and Ground Based Pruning. <b>AND</b> Recognised certificate of Competence in Tree Climbing and Aerial Rescue
<b>Experience</b>	Personal Supervision for on Job Training <b>or</b> 3 months previous Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 1 on Job Work Book (inc climbing ops)
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 1 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> Recognised Climbing and Rescue refresher or CPD evidence
<b>Assessment</b>	CAG Assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

**NOTE:**

- All work adjacent to dead HV lines to be done under PTW.
- Requires Code 195 for receipt of PTW for tree cutting work adjacent to dead overhead lines
- PTW is NOT to include Tower work or 132kV woodpole lines

<b>606</b>	Utility Arborist – Tree Cutting adjacent <b>LIVE</b> Overhead Lines up to 132kV – Ground based pruning
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<b>Qualifications</b>	<b>ENW UA Mod 2 – Live Line cutting with Insulated Rods</b> or recognised Utility Arboriculture Certificate of Competence in Ground based Pruning
<b>Experience</b>	Competent person with 3 months experience working Dead
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 2 on Job Work Book
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 2 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy



<b>607</b>	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 132kV - Ground based felling
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<b>Qualifications</b>	<b>ENW UA Mod 3 Live Line Cutting - Felling Operations</b> or recognised Utility Arboriculture Certificate of Competence in Assisted Felling <b>AND</b> a recognised Certificate of Competence in Tree Felling.
<b>Experience</b>	Competent person with 3 months experience working Dead or 3 Months Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 3 on Job Work Book
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 3 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> Recognised Chainsaw and Felling Refresher or CPD evidence
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

608	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines upto 11kV – Aerial cutting from MEWP
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<b>Qualifications</b>	<b>ENW UA Mod 5 Live Line Cutting - MEWP Operations</b> or recognised Utility Arboriculture Certificate of Competence in Chainsaw from MEWP
<b>Experience</b>	Competent person with 3 months experience working Dead or 3 months previous relevant Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 5 on Job Work Book
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 5 Recert / Audit every 2yrs <b>or</b> Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> MEWP (5 yrs)
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

609	Utility Arborist – Tree Cutting adjacent to <b>LIVE</b> Overhead Lines up to 132kV – Aerial cutting from Rope and Harness (Climbing Ops)
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<b>Qualifications</b>	<b>ENW UA Mod 4 Live Line Cutting - Climbing Operations</b> or recognised Utility Arboriculture Certificate of Competence in Aerial Pruning <b>AND</b> Recognised certificate of Competence in Tree Climbing and Aerial Rescue
<b>Experience</b>	Competent person with 3 months experience working Dead or 3 months previous relevant Utility Arb experience
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112) <b>AND</b> CC008a – Celox and Tourniquet Application or equivalent
<b>On Job Training</b>	Completion of Mod 4 on Job Work Book
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> ENW UA Mod 4 Recert / Audit every 2yrs or Recognised UA refresher or CPD evidence every 3 yrs <b>AND</b> Recognised Climbing and Rescue refresher or CPD evidence
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

610	Utility Arborist – Surveying
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<b>Qualifications</b>	Recognised Certificate of Competence in Utility Arboriculture Surveying
<b>Experience</b>	Personal Supervision or 3 months previous relevant Utility Arb Tree Survey experience.
<b>Formal Training</b>	VM013 – Safe Working Adjacent to Overhead Lines for Tree Contractors <b>AND</b> VM0011 – Live Line Tree Cutting (ED1112)
<b>On Job Training</b>	Personal Supervision surveying HV and LV networks
<b>Refresher</b>	H200CA Electrical Competency Accreditation <b>AND</b> UA refreshers or CPD evidence every 3 yrs
<b>Assessment</b>	CAG assessment
<b>Interview</b>	System Operations Engineer or nominated deputy

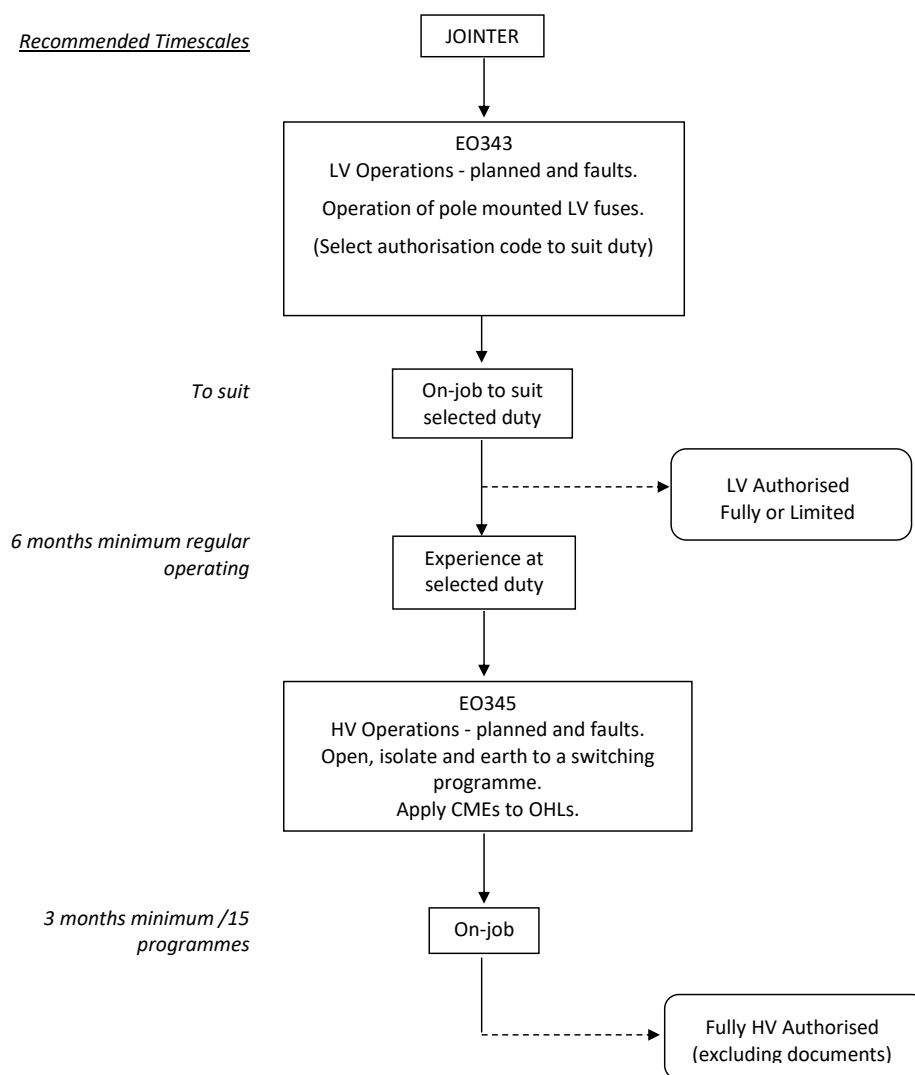
**NOTE:**

Can hold code 195 to Receive PTW subject to training and completion of 5 PTWs under Personal Supervision

## Appendix E – Authorisation Routes

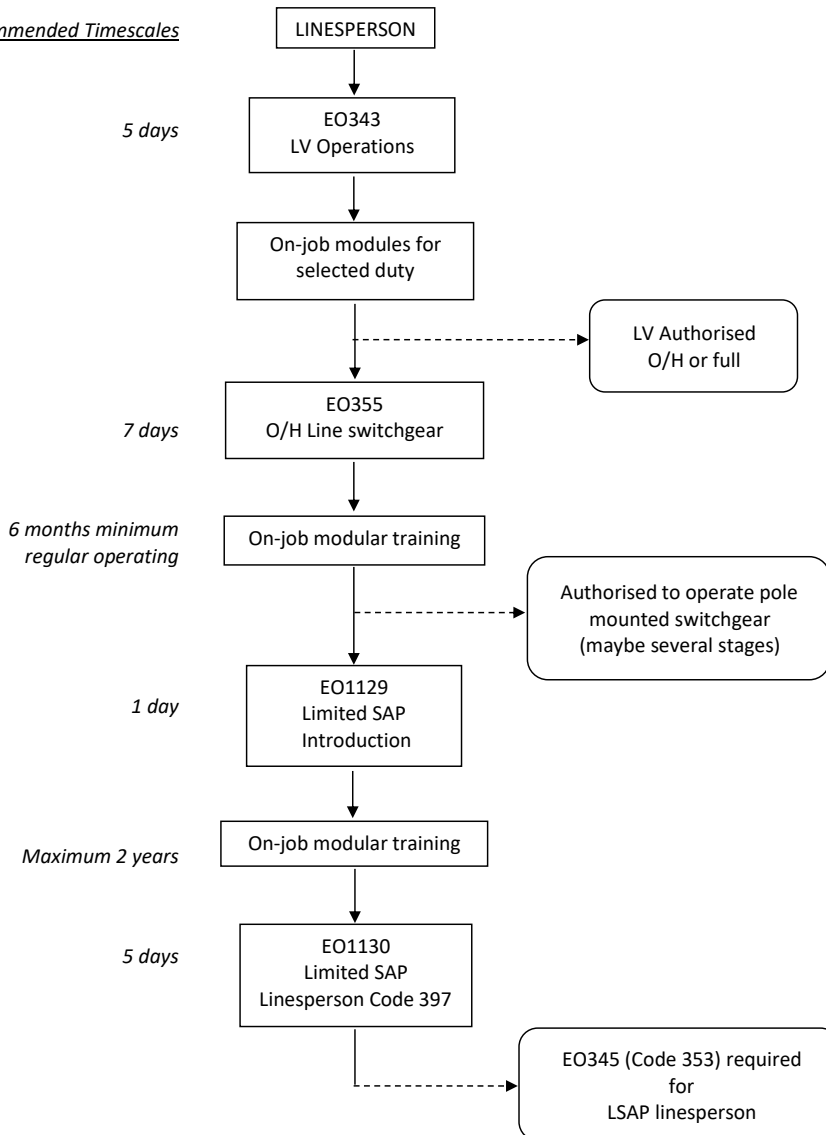
### E.1 Authorisation Route for Jointers (Progression to AP)

Recommended Timescales



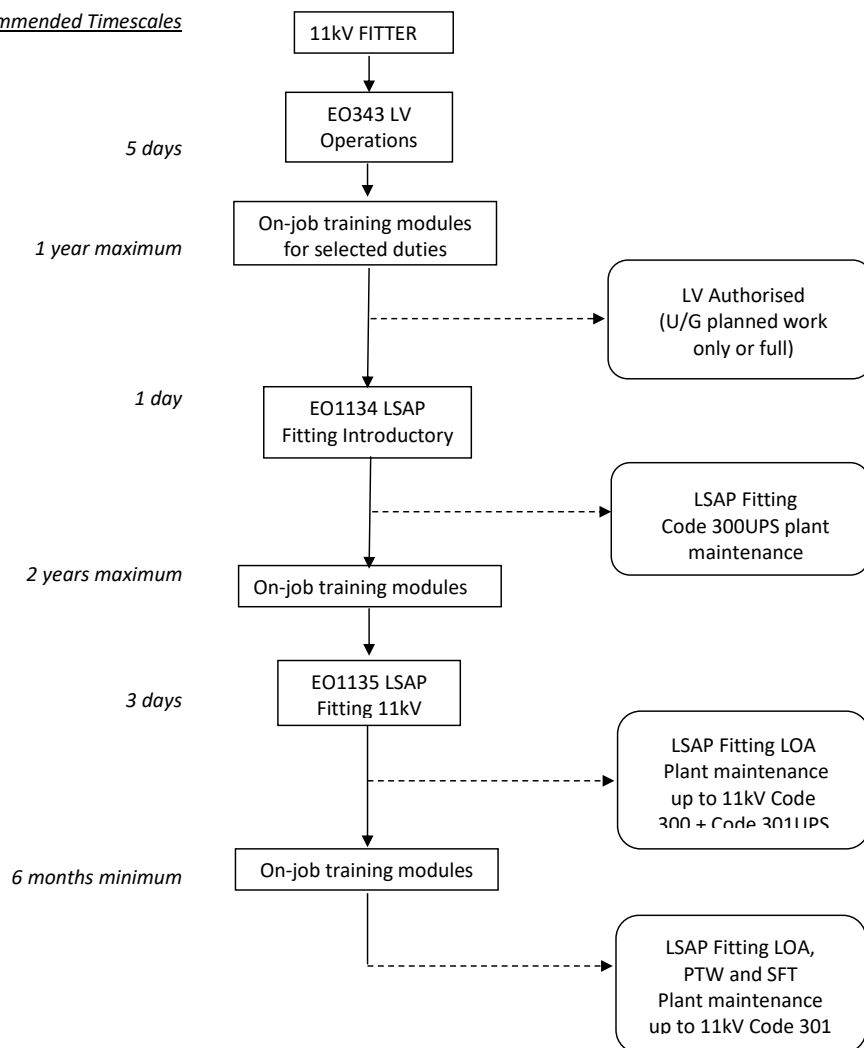
## E.2 Authorisation Route for Linesperson (Progression to AP/LSAP)

### Recommended Timescales



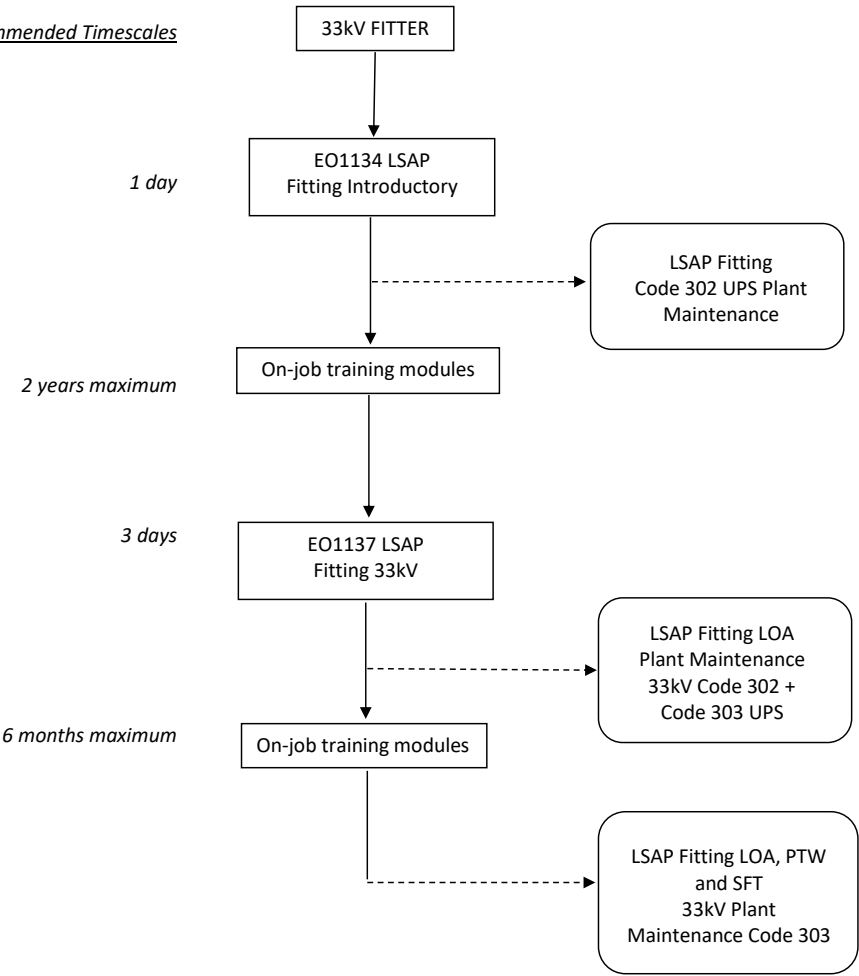
### E.3 Authorisation Route for 11kV Fitters (Progression to AP/LSAP)

Recommended Timescales



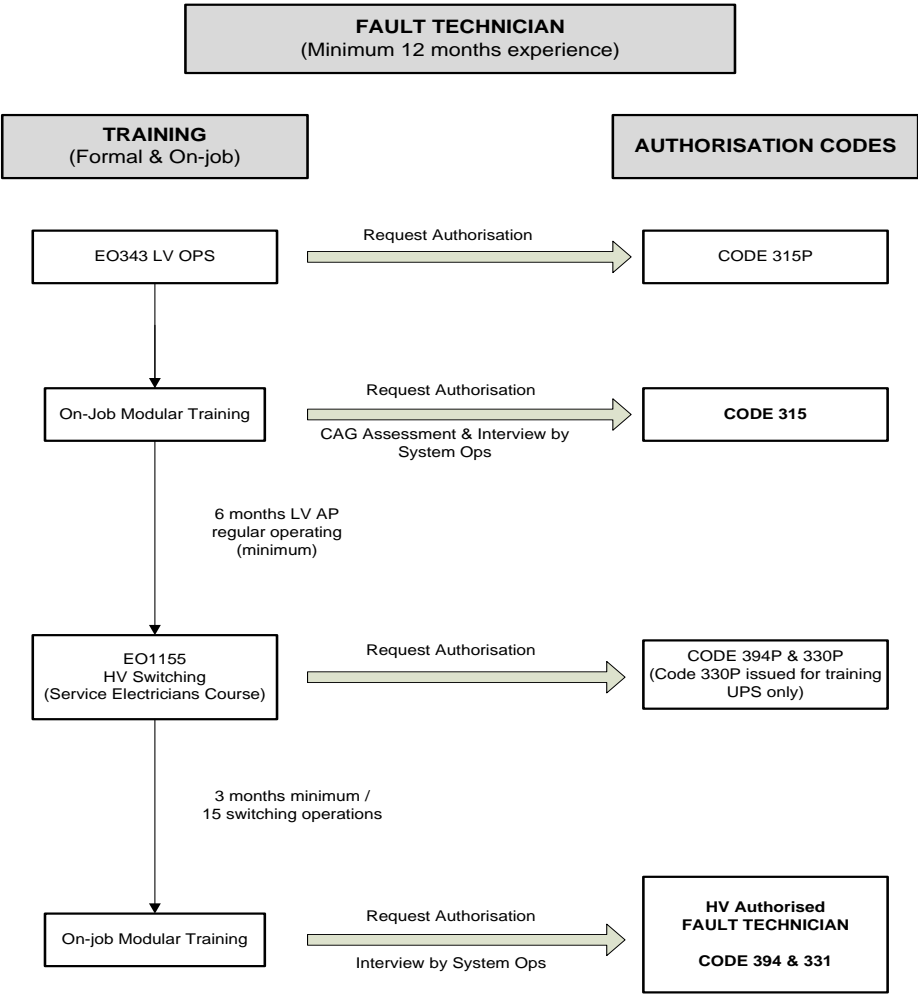
### E.4 Authorisation Route for 33kV Fitters (Progression to AP/LSAP)

*Recommended Timescales*





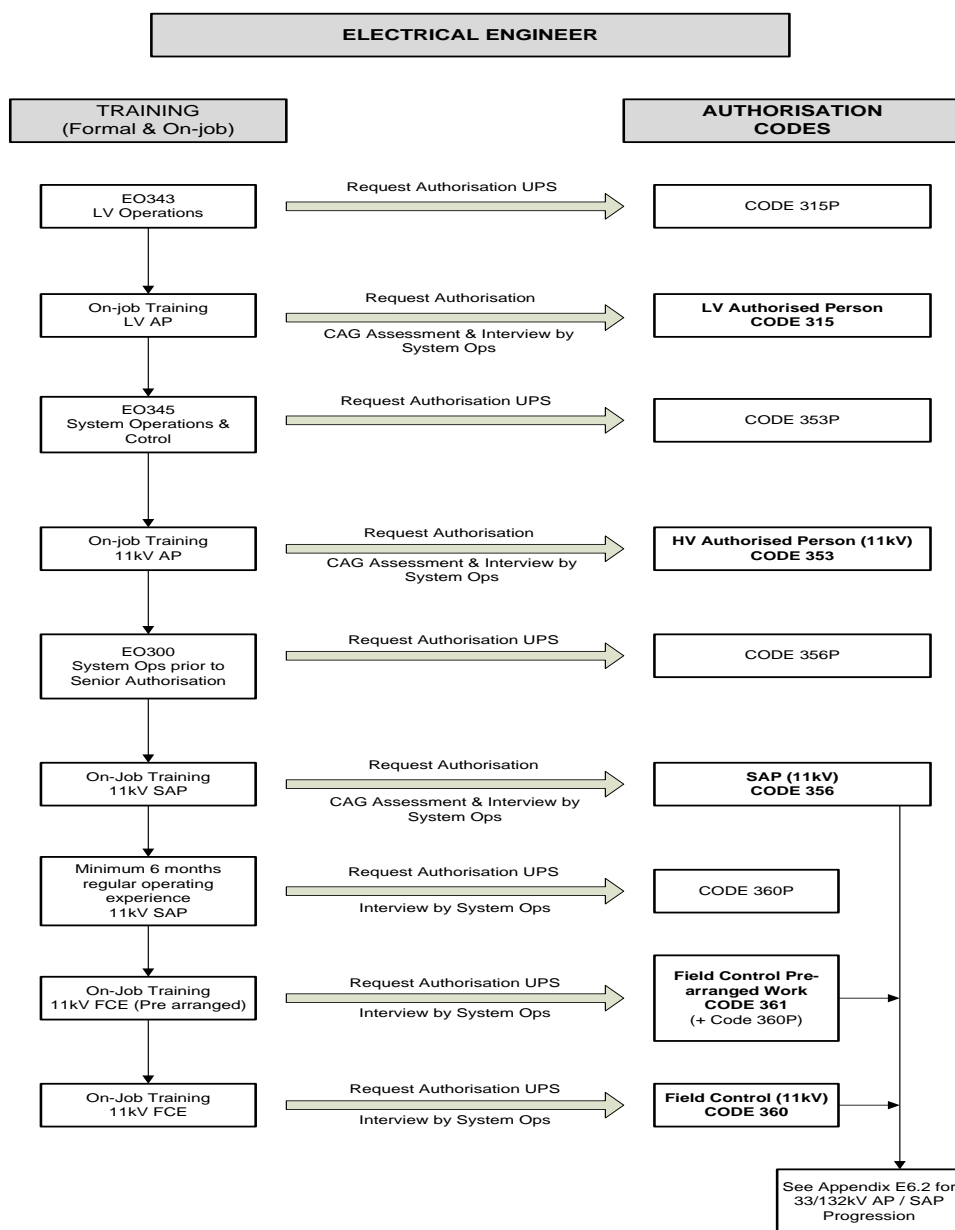
E.5 Authorisation Route for Fault Technicians (Progression to AP)



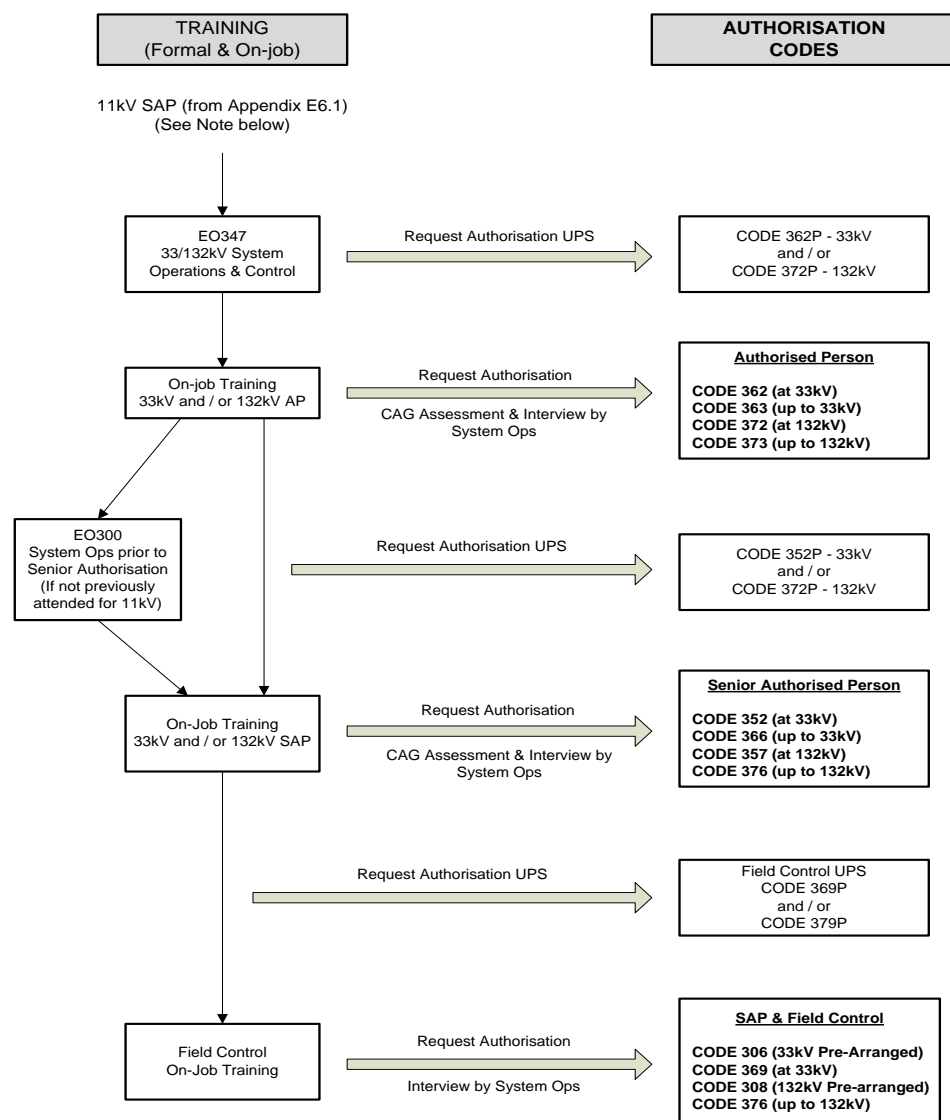
Note

Code 331 & Code 394 excludes the posting of a Caution Notice

## E.6 Authorisation Route for 11kV Engineers



## E.7 Authorisation Route for Engineers (33kV/132kV Progression)



### NOTE

Can subject to agreement come in at 33/132kV level without having LV or 11kV Authorisation / background

## E.8 Authorisation Route for Contractor's Authorised Person

### E.8.1 General

A contractor's employee may be issued with levels of authorisation as outlined in the authorisation profiles in this Code of Practice. In the case of authorising Contractor's employees, it is recognised that the experience and knowledge of the employees will vary on a candidate basis. Consequently, the training and on-job training and/or familiarisation will need to be specific to the needs of the candidate

The authorisation process will generally fall into the following main stages:

- (i) Pre-assessment questionnaire
- (ii) Pre-training/authorisation assessment
- (iii) Training (formal and on-job)
- (iv) Authorisation interview
- (v) Issue of Authorisation

The process is based on an assessment of the candidate to determine the knowledge and experience of the candidate concerned and therefore identify the formal and on job training that is required. Following a satisfactory authorisation interview, the candidate will be appropriately authorised (eg SAP, AP) for a period of up to 3 years or the length of the contract as appropriate. The training and experience of the contractor's employee will influence the training required.

It is anticipated that there will be two or three suitable training courses available and the appropriate one should be selected following a 'pre-training and authorisation' assessment with the System Operations Engineer. The purpose of this initial assessment is to identify:

- (i) Knowledge of the Distribution Safety Rules (if candidate is from another DNO, does/did that DNO use the National Model Rules?)
- (ii) Knowledge of the Statutory Legislation
- (iii) Breadth and depth of experience - what did they actually do?
- (iv) Knowledge of Electricity North West Policy and Procedures

The candidate will be required to attend operational refresher training at yearly intervals or at the commencement of the contract as appropriate. This training should include any updates to the Safety Rules, operational policy and procedures.

The overall process is summarised at the end of this appendix.

### E.8.2 Pre-Assessment Questionnaire

A pre-assessment questionnaire should be completed by the Contractor for each person requiring Authorisation. This may be satisfied by a 'Curriculum Vitae' for the candidate concerned, and should include:

- (i) What experience has the candidate? (records to be provided)
- (ii) What training? (records to be provided)
- (iii) Has candidate been an Authorised Person / Senior Authorised Person before? If so where and who issued the authorisation?
- (iv) Has the candidate ever been refused authorisation? If so why and by whom?

### E.8.3 Pre-training/Authorisation Assessment

The Contractor's candidate should be assessed for the following:

- (i) Electricity at Work Regulations
- (ii) Electricity Safety, Quality and Continuity Regulations
- (iii) Health and Safety Executive Guidance Notes GS 6
- (iv) Health and Safety Executive Guidance Notes HS(G) 47
- (v) Distribution Safety Rules, including the requirement for 'Approved Procedures' and 'Explanatory Notes'
- (vi) Electricity North West operational policy relevant to selected activity
- (vii) Electricity North West operational procedures relevant to selected activity

In the case of an 'ex DNO (non Electricity North West) SAP', it is unlikely that they will have any knowledge of Electricity North West procedures but if their Senior Authorisation is recent they should be familiar with national legislation. Therefore the training appropriate in this case would concentrate on familiarising the candidate to Electricity North West policy and procedures.

### E.8.4 Experience

The Contractor's candidate must have had sufficient relevant experience at the appropriate voltage and authorisation level in the selected activity for the contract in question. The amount of training necessary will be determined in each case by the candidate's experience.

The Contractor's candidate must provide a summary of their experience which must include:

- (i) Evidence that the authorisation level has actually been used on relevant work in the selected activity.
- (ii) Documentary evidence of previous authorisations and experience (eg authorisation dates and certificates, switching programmes, operational audit reports).

As a guide, the authorisation should have been current in the last twelve months. If not, more training may be required.

### E.8.5 Training

As referred to in E8.3, it is most likely that the contractor's employee will have little, if any knowledge of the Distribution Safety Rules and Electricity North West policy and procedures. They should have, especially if they is an 'ex DNO engineer' or have been previously authorised by another DNO, a knowledge of the statutory requirements and the National Distribution Safety Rules (if the DNO used the National Distribution Safety Rules).

The training is therefore based on three areas:

- (i) Safety Rules
- (ii) Operational Policy (CP605)
- (iii) Operational Procedures (CP606)

and should comprise formal and on-job training as appropriate to the candidate.

It is likely that all candidates will be required to attend the relevant formal training courses identified in Appendix D. Agreement on the on-job training necessary will be determined following the pre-training/authorisation assessment as referred to in section 2 above.

As part of the on-job training the contractor's employee should be made familiar with the following subjects:

- (i) Local substations.
- (ii) Communications - radio, mobile telephone, Electricity North West internal telephone contact addresses and telephone numbers control centres.
- (iii) Unusual items - use of schedule.
- (iv) System diagrams, plans, mains records. Interpretation and understanding (including the colour coding).
- (v) Network to be worked on.
- (vi) Personal Protective Equipment (PPE) - within testing date.
- (vii) Engineers tools and equipment eg operating rods, insulated tools, testers, torch, test bushings etc
- (viii) Operational equipment eg safety locks, danger notices, caution notices, lock-out boxes.
- (ix) Keys - substation and switchgear.
- (x) Switching programmes and documents - issue and the use of.
- (xi) Depot access (security arrangements).
- (xii) Types of switchgear either local or Electricity North West eg Long and Crawford.
- (xiii) System running arrangements.

- (xiv) Outage management - 'carding off' use of generators fault history of circuits to be worked on (rogue circuit?).
- (xv) Handling customers.
- (xvi) Wayleaves and access arrangements.
- (xvii) Update on amendments to Safety Rules/Codes of Practice.
- (xviii) Switchgear familiarisation training.

**NOTE:** The above topics may need to be specifically covered in the contract specification and additionally incorporated into the project health and safety plan.

The Contractor must submit a Request for Authorisation Form to System Operations for their employee prior to them starting any on-job training. This request will detail the authorisations required Under Personal Supervision to enable this on-job training to be carried out. A maintained set of the Distribution Safety Rules and Operations Manual (CP606) should be issued at the same time as this authorisation, and should be surrendered when the authorisation is returned.

#### E.8.6 Authorisation Interview

The authorisation interview will be carried out by the nominated System Operations Engineer. The System Operations Engineer must be confident from the interview that the Contractor's Employee is familiar with the Distribution Safety Rules (including the Explanatory Notes and Approved Procedures), Electricity North West Policy (CP605) and Electricity North West Operational Procedures (CP606).

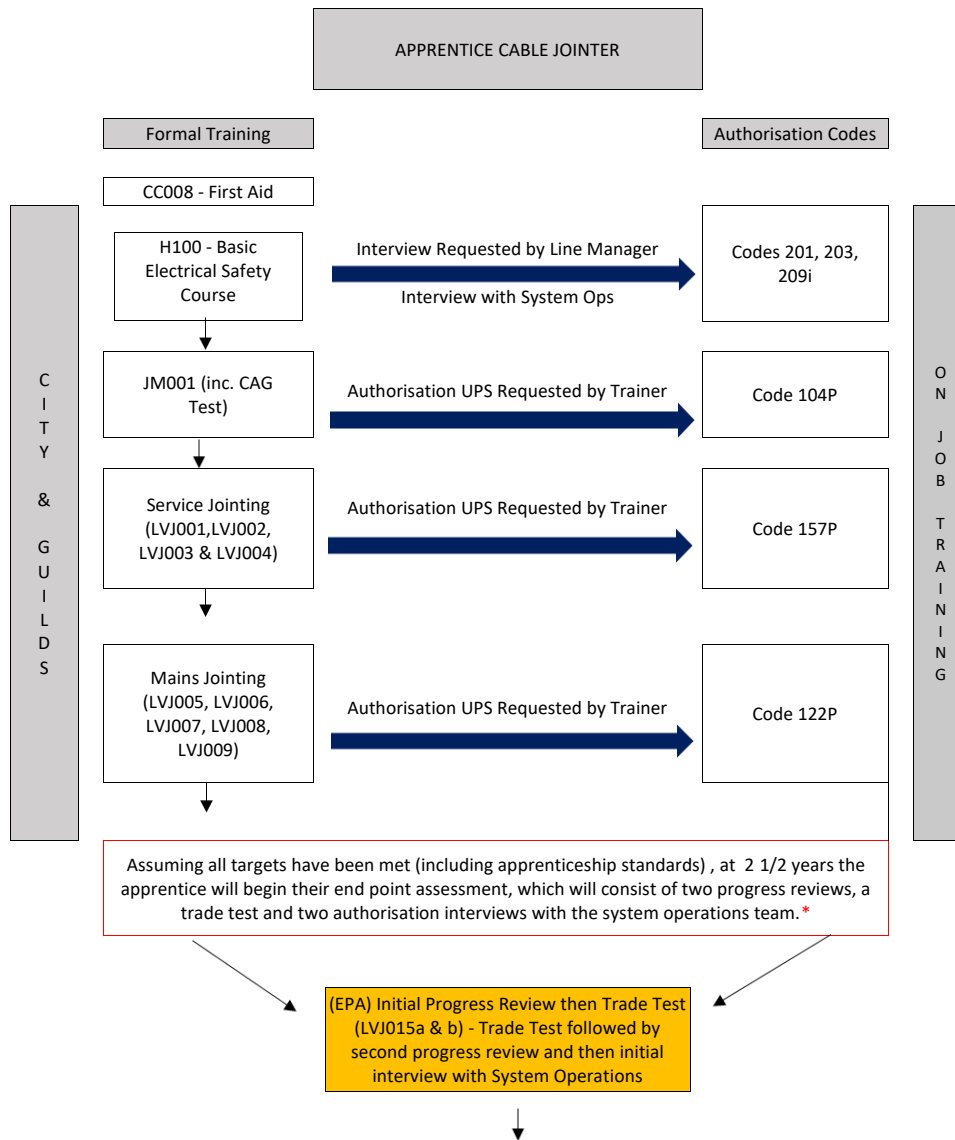
#### E.8.7 Issue of Authorisation

The authorisation should be issued for a period of up to 3 years or the length of contract as appropriate and will be issued subject to the contractor being an Electricity North West Approved Contractor. The authorisation will contain a photograph of the candidate being authorised.

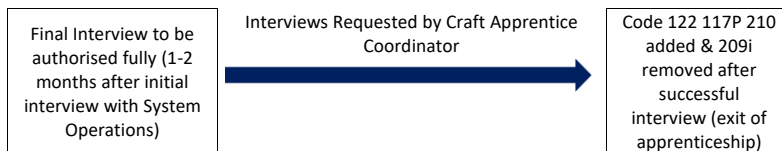
The authorisation may be restricted to a specific contract and/or geographical area to suit. It should initially exclude field control, which if needed should only be added to the authorisation following operating experience on Electricity North West system.

An audit should be carried out within 3 months, or other suitable timescale, from the issue of the authorisation.

## E.9 Authorisation Route for Apprentice Cable Jointer







**Additional Mandatory Courses for Jointers, to be completed alongside their initial training:**

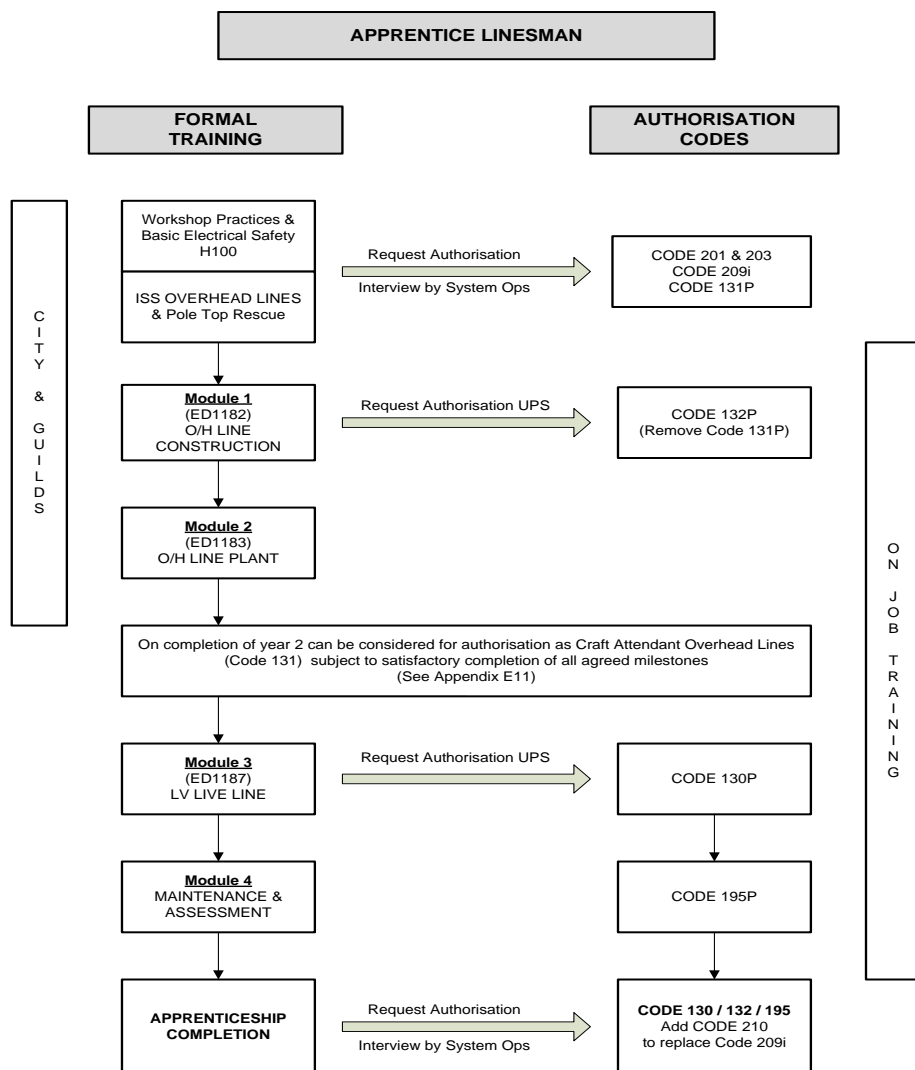
CC011a - ASBESTOS AWARENESS  
 CC013 - CSCS - ENERGY & UTILITY SKILLS CARD - SHEA POWER  
 NRSWA 003 - NRSWA FOR OPERATIVES  
 PL005a - EXCAVATOR 360 (UNDER 10t)  
 PL026 - ABRASIVE CUTTING EQUIPMENT: DISC CUTTER


**Notes:**

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised

\*The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

## E.10 Authorisation Route for Apprentice Linesperson

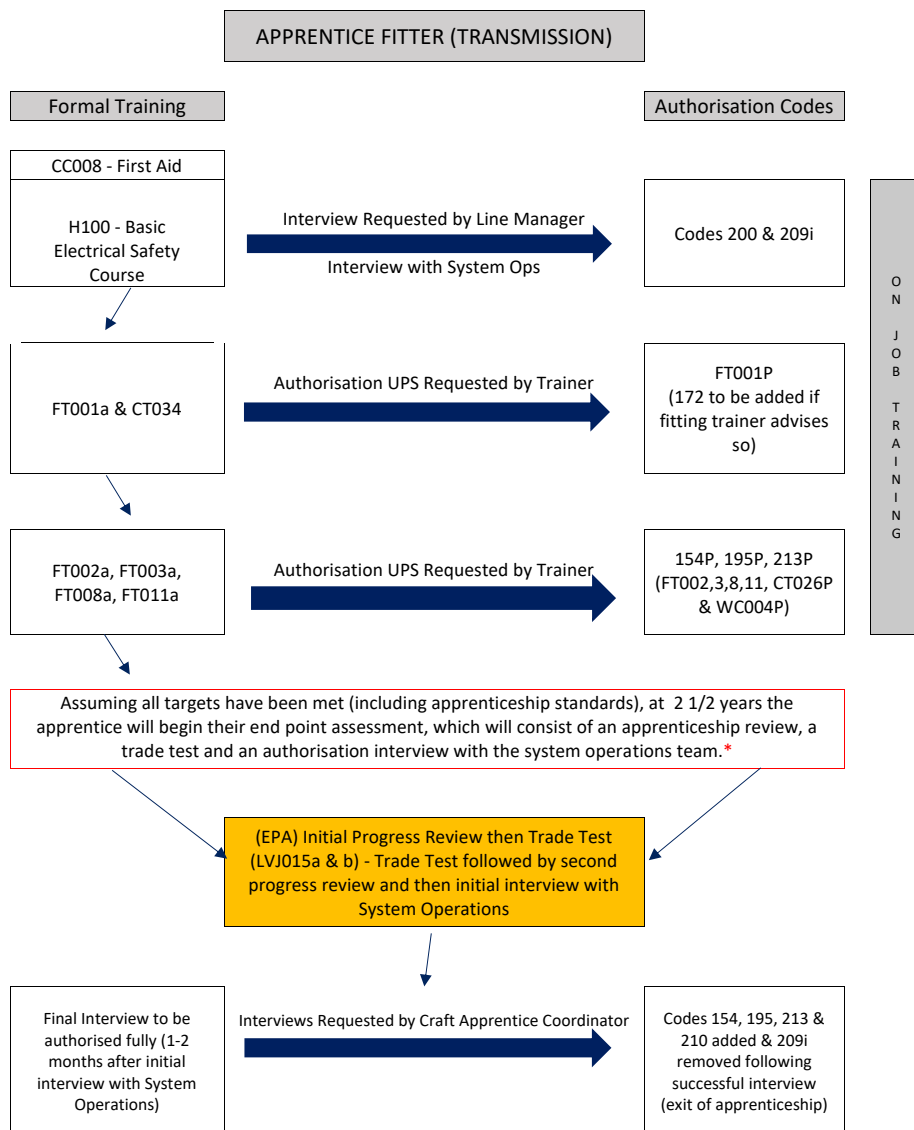


	AUTHORISATION	614
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**NOTES:**

1. New updated authorisations required at the end of each formal training modules to enable on-job training to commence immediately after each module.
2. Authorisation Request Forms to be submitted by the Training Manager for each apprentice before the end of each module.
3. On receipt of above, System Operations to attend Electricity North West Training Centre on last day of module to issue authorisations and brief apprentices on relevance of new clauses.

## E.11 Authorisation Route for Apprentice Transmission Electrical Fitter



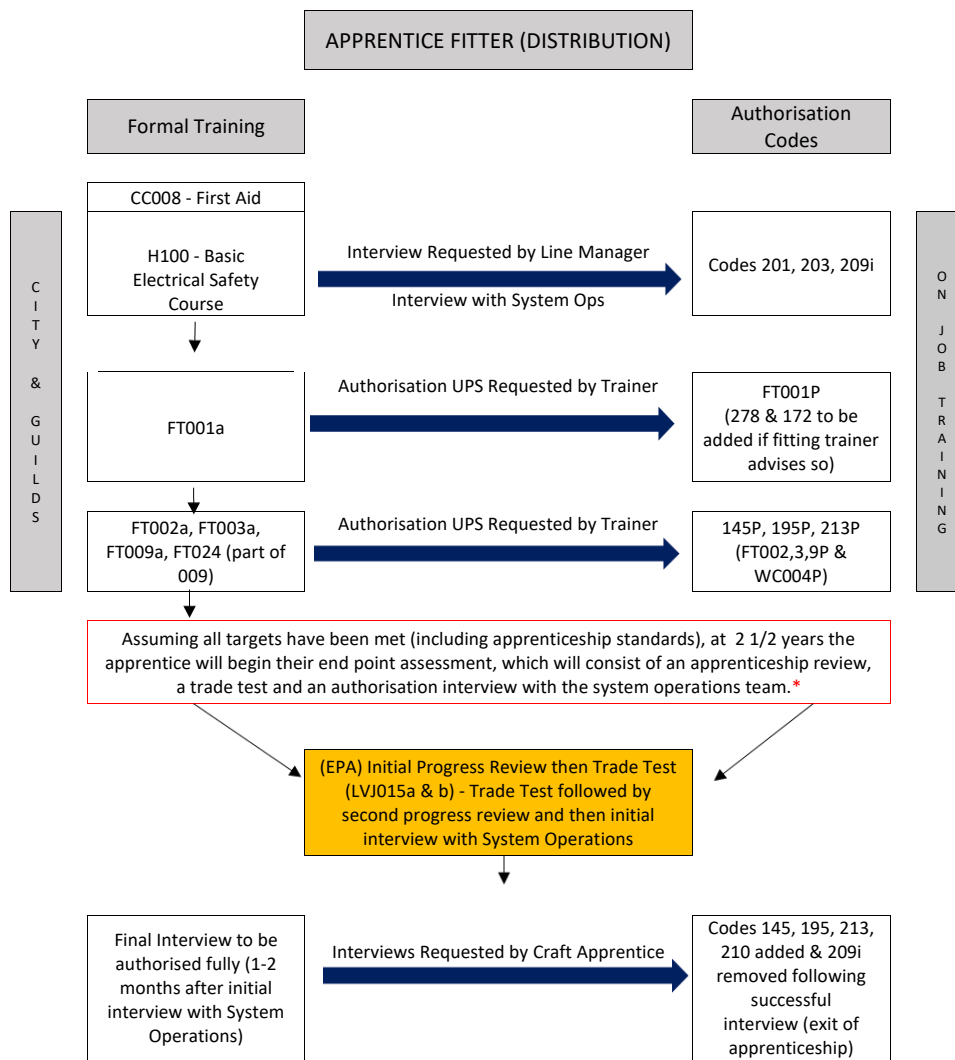
**Additional Mandatory Courses for Fitters, to be completed alongside their initial training:**

CC011a - ASBESTOS AWARENESS  
CT018a - CONFINED SPACE TRAINING  
CT022 - SAFE WORKING WITH LADDERS (USING HARNESS & RESCUE)  
CT034 - OPEN BUSBAR COMPUND TRAINING  
NRSWA 003 - NRSWA FOR OPERATIVES  
PL027a - LIFTING WITH SLINGS  
PL030 - ABRASIVE CUTTING EQUIPMENT: PEDESTAL MOUNTED  
PL001 - MOBILE TOWER SCAFFOLD (PASMA)  
CT004a - SF6 HANDLING TRAINING COURSE

**Notes:**

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
  2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised
- \*The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

## E.12 Authorisation Route for Apprentice Distribution Electrical Fitter



**Additional Mandatory Courses for Fitters, to be completed alongside their training:**

CC011a - ASBESTOS AWARENESS  
CT018a - CONFINED SPACE TRAINING  
CT022 - SAFE WORKING WITH LADDERS (USING HARNESS & RESCUE)  
NRSWA 003 - NRSWA FOR OPERATIVES  
PL027a - LIFTING WITH SLINGS  
PL030 - ABRASIVE CUTTING EQUIPMENT: PEDESTAL MOUNTED  
PL001 - MOBILE TOWER SCAFFOLD (PASMA)  
CT004a - SF6 HANDLING TRAINING COURSE

**Notes:**

1. New updated authorisations required at the end of each formal training module to enable on-job training to commence immediately after each module.
  2. Keys will be issued to the apprentice at their final interview with system operations when they become fully authorised
- \*The apprentices first progress review will be done prior to their trade test, and the second will be done after their trade test but prior to their initial interview. The initial interview is completed after their trade test and second progress review, then a final interview will be completed to fully authorise the apprentice.

## E.13 Progression of Apprentice to Craft Attendant (Mate)

Apprentices can be considered for authorisation as Craft Attendant (Mate) prior to completion of their apprenticeship, subject to satisfactory completion of the following milestones:

1. Milestones
  - 1.1 The Apprentice will be in their 3<sup>rd</sup> year of training
  - 1.2 The Apprentice will have successfully completed the C&G 2322 qualification
  - 1.3 The Apprentice will be up to date with all on-job training
  - 1.4 The Apprentice will be up to date with compiling their NVQ port-folio
2. Authorisation as Craft Attendant Mate
  - 2.1 The Apprentice will successfully complete CA Assessment
  - 2.2 The Apprentice will satisfactorily complete a Trade Test / On-job Assessment
  - 2.3 Authorisation will be subject to satisfactory interview with a System Ops Engineer
3. Commitment from Line Management
  - 3.1 Apprentices will not undertake stand-by duties.
  - 3.2 All apprentices will be given time to complete their on-job training records and NVQ port-folio building (desk days).
  - 3.3 Authorisation as a Mate will enable the apprentice to work with a Craftsman as a two person team. All craft activities undertaken by the apprentice shall be carried out under the Personal Supervision of a suitably authorised Craftsman. If at any stage Personal Supervision cannot be provided then all craft work must cease.
  - 3.4 The criteria for allocating apprentices to Craftsman are to be based on the best interest of the apprentice in enabling them to gain the relevant on-job experience.
  - 3.5 It is likely that by permanently teaming an apprentice with a specific Craftsman may not enable the apprentice to achieve the full range of on-job training requirements. There needs to be a flexible approach in allocating apprentices to enable them to gain the relevant on-job experience.
  - 3.6 On-job training in the third year will include receipt of Safety Documents under Personal Supervision. Time should also be given to enable apprentices to complete all outstanding on-job training.
  - 3.7 The individual progress of all Apprentices will be reviewed on a regular basis (3 monthly). In cases where there is insufficient progress then the Craft Attendant authorisation will be withdrawn.



E.14 Authorisation Route for Emergency Imported Staff

The authorisation of emergency imported staff will be undertaken by System Operations staff, or where more expedient to do so, by local engineering staff personally appointed to do so.

The emergency imported staff will normally be from the NEWSAC (Northern Eastern Western Southern) consortium but other staff including contractors can be utilised.

The briefing notes and process for these staff is in CP604.

The Temporary Authorisation/Competency Certificate overleaf is to be used and is that specified in the NEWSAC agreement.

NEWSAC AGREEMENT

Temporary Authorisation / Competency Certificate

Issued to: (Name) .....

I hereby extend your authorisation / competency certificate issued by:  
.....

To cover the Electricity North West Ltd area

It is agreed that you can work under your company's Safety Rules and procedures.

This certificate is cancelled immediately on your leaving the Company's area.

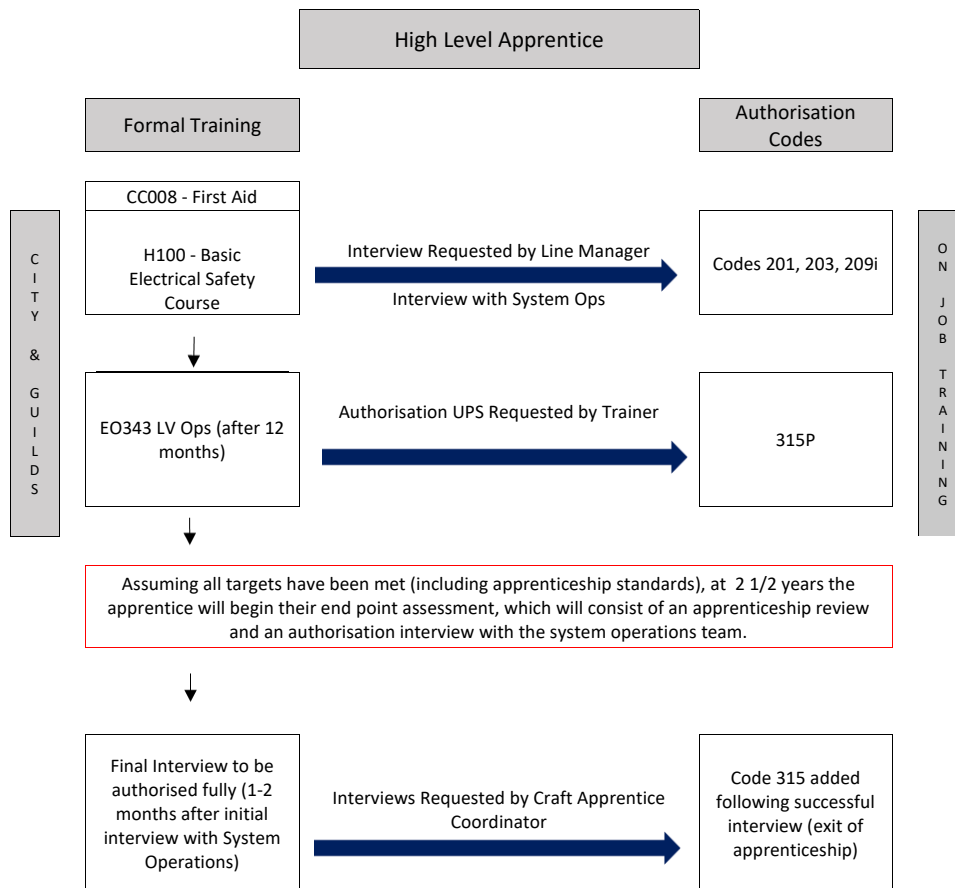
Signed .....

Title .....

Date .....

Exceptions  
.....  
.....  
.....

## E.15 Authorisation Route for Higher Level Apprentices



Name of Applicant	
Address	
Contact Number(s)	
E-mail address	

Authorisation(s) held	
Reason for removal	
Date of removal	

Reason for applying for re-authorisation

Evidence to support application

*Attach certificates of qualifications and other Network Operator authorisation (if applicable)*

Please return completed application form to;

By post;

Electricity North West Limited, Training Academy, 6 Dyneley Road, Whitebirk, Blackburn, BB1 3AB

By e-mail:

[TheAcademy@enwl.co.uk](mailto:TheAcademy@enwl.co.uk)